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THE ORGANIZATION AND SURGERY OF MILITARY ORTHOPÆDIC HOSPITALS, WITH SPECIAL REFERENCE TO NERVE SURGERY.[1]

By **Lennox G. Teece, M.B., Ch.M. (Sydney),**
Sydney.

As I have but recently returned to Australia from service abroad with the Royal Army Medical Corps, eighteen months of which was spent on the surgical staff of the Military Orthopædic Hospital at Shepherd's Bush, in London, it occurred to me that it might be of interest to the members of this Branch to learn some first-hand impressions of the organization of such centres, and of the more recent developments in orthopædic surgery that have been practised there. The subject should be of more particular interest at the present moment, now that so many of our own wounded are returning to Australia, still requiring extensive orthopædic treatment before they can be returned to their civil occupations; and the size of the pension list that the Commonwealth will be called upon to pay will be a fairly accurate measure of the efficiency of the organization of this work. The problem that has been so successfully solved in Great Britain now presents itself to Australia in an accentuated form, the differences depending on the lesser density of population. In England it has been possible to organize so many orthopædic centres that each discharged soldier, no matter where he lives, is within easy reach of one of them, and can keep in touch with the surgeon and maintain the continuity of his treatment for as long a period as may be necessary. It is characteristic of the late stages of the orthopædic cases that the patients need supervision rather than active treatment. It has thus been possible to discharge from the Army and from military hospitals many thousands of men with orthopædic disabilities and to restore them from a state of idleness to productive occupations.

In this country, where the population is so scattered, the co-operation of the individual practitioner will be more urgently demanded. It is manifestly impossible to retain every man in hospital till the ideal result is obtained; in so many cases is treatment a matter of years. There is a vast group of patients who only require occasional inspection or supervision. This remark particularly applies to cases of nerve suture and cases where deformity has been rectified. The former require observation, so that the presence or progress of recovery may be noted. The latter must be watched to prevent relapse. Thus then in the final stages the care of all these men, who are resident outside the metropolis, must fall to the general body of practitioners throughout the country, so that it has now become a matter of paramount importance that everyone should be acquainted with the basic principles of orthopædic work, so that he can, at least, recognize the signs of relapse should they occur in an apparently rectified deformity. The field of orthopædic work is so large, its expansion has been so rapid, and the organization of orthopædic centres in Great Britain and Ireland has been so thorough and complete, that it is impossible in a short paper to give a comprehensive survey of all that is being done in this branch of surgery.

It is, therefore, only possible to give a brief history of the organization of orthopædics; to describe shortly the nature of the cases encountered and their management, not only from a surgical aspect, but also with due regard to the maintenance of the men's morale, to the prevention of the development of habits of indolence, apathy and moral inertia, and, finally, to the restoration of the maimed to the ranks of the wage-earning community.

The structure of the widespread and efficient organization existing in Great Britain to-day has been entirely built up by Sir Robert Jones, of Liverpool, who prior to the war had been chiefly responsible for carrying on the teachings of the late Owen Thomas, his uncle. One of the very few results of this war, for which we have to be thankful, is that it has led to the recognition of the eminent position that is due to Thomas's work in orthopædic surgery, a work that has been carried on and further advanced by Sir Robert Jones. Of course, for many years past orthopædic surgeons from all over the world have made pilgrimages to Liverpool for the purpose of seeing for themselves the work of Sir Robert Jones, but a great number of general surgeons were not conversant with his principles or methods till the realization of their excellence was forced upon them, when, as a consequence of the war, the work for the orthopædic surgeons multiplied many times. It gives us food for thought when we recall that Thomas's splints are the invention of a former generation, and yet it is only to-day that their virtues have become apparent to many surgeons, who are now busily engaged in consigning to the flames the long Liston, the internal angular splint, and other similar monstrosities.

We must acknowledge that the principles we follow to-day in the treatment of military orthopædic cases are the same as guided Owen Thomas fifty years ago in Liverpool, when he treated the varied injuries that always occur at the docks of any large seaport. There are differences of degree, but not of kind.

For the treatment of fractures we have nothing to equal the Thomas's splints. There is a crop of modifications of which the Wallace-Maybury splint is an example, that have been introduced since the popularity of the Thomas's splints became assured. It may be said with truth that the extent to which

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on July 26, 1918.

these modifications differ from Thomas's original patterns is a measure of their inferiority.

For the correction of deformity the principles of Thomas require the application of a small force applied continuously in preference to a larger force applied intermittently or to the use of the knife; and this preference is even more warranted in the case of post-wound deformities, where sepsis is always to be feared, than in the case of the deformities of civil life.

The other school of orthopædic thought represented by the London surgeons as compared to the Liverpool school of Robert Jones and his disciples differed somewhat in principles and practice. As regards fractures, the advocates of plating, encouraged by the success which this method had at the hands of Sir Arbuthnot Lane, and by his skilful advocacy of, and optimistic attitude as regards the results obtained thereby, outnumbered the more conservative surgeons, and plating as a routine procedure in the treatment of simple fractures was recommended by more than one surgeon of high repute. Many of the London surgeons favoured operative methods to secure the correction of deformity, not merely subcutaneous tenotomies in lieu of gradual stretching, but open operation, or, in place thereof, the forcible correction of a deformity at a single sitting. They grudged the time and patience necessary for gradual rectification. Had Sir Robert Jones not been appointed Inspector of Military Orthopædics, and thus been enabled to direct the lines of treatment adopted to accord with his views, then the policy of active surgical interference, when adopted in areas recently septic, whose sepsis often lay latent after apparently clearing up, would have produced a crop of disasters of the first magnitude.

As it was, one of the first lessons that the orthopædic surgeon had to learn from the war was that, even when the use of the knife is essential, it is wise to wait till a considerable period has elapsed since the cessation of all sepsis. Many disasters, and even deaths, have occurred through neglect of this principle, and it has become the custom to avoid operation in the case of a deformity caused by a war wound, if any other method promises a satisfactory, even though a delayed, ultimate result. Most of those who favoured a policy of more active interference have by now been converted to the true faith, and it is now but seldom that we have to witness the tragedy of a latent sepsis stirred up to activity by the enthusiasm for operation of an overzealous surgeon.

The credit for the organization of the orthopædic work of this war in Great Britain and Ireland belongs almost exclusively to Sir Robert Jones, though his task was rendered practicable by the munificence of the Red Cross Society and of certain private benefactors, whose princely gifts alone made possible the establishment of the curative workshops, which play so large a part in the scheme to-day.

On his appointment as Inspector of Military Orthopædics Sir Robert Jones set to work to organize military orthopædic centres throughout Great Britain and Ireland, and to-day there are nine of these centres in England, three in Scotland, and two in Ireland. At first considerable difficulty and some confusion were caused by the War Office not leaving him the sole control of the appointment and allocation of his surgical staffs. On more than one occasion unsuitable officers were sent for duty to orthopædic centres, whilst valued members of the staff were despatched abroad as general reinforcements without notice to him. This state of affairs has now been remedied, and the Inspector is vested with complete control over the personnel of his various hospitals.

I shall describe to you the organization of the Shepherd's Bush centre, as all the other centres are more or less faithful replicas of it. The work and the allocation of the charge of beds were largely modelled on that of civil hospitals, each "firm," as we colloquially called it, consisting of a surgeon, an assistant surgeon and a house surgeon, and having charge of two hundred beds.

In the allocation of work no regard was paid to rank. I have seen a Lieutenant acting as full surgeon, whilst simultaneously a Major officiated as house surgeon. Though at first sight this seems an extraordinary arrangement, it worked extremely well, and is really sound, when we remember that rank in the Royal Army Medical Corps depends mainly on length of service, and that, though it may be to the discredit of the profession, it is none the less true, that few of the most able members of the medical profession were before the war members of the Royal Army Medical Corps Territorial Force. Furthermore, all temporary officers, that is those who have joined for the duration of the war only, are paid at the same rate, no matter what their rank or length of service, except in so far as there are additional emoluments in the way of charge pay to men in command of units. Again, nearly all ranks are made temporary in character. It is not uncommon for a man to-day to be in command of a unit and a temporary Lieutenant-Colonel, whilst to-morrow he may revert to Lieutenant.

There are two ways in which an orthopædic hospital differs from an ordinary military hospital, both of which determined considerable differences in the organization. The first is that there is no rapid passing through of cases. The number of men that will again become fit for general service is comparatively few. A man who has had a gunshot fracture of his femur or a complete division of his brachial plexus will probably never again enter the trenches. The cases nearly all require long and tedious treatment; twelve months is not an abnormal time for a patient to remain in hospital. The other difference is that so many of the patients are really in a transitional stage between military and civil life. Their soldiering days are done, and they know it, and they are often little amenable to discipline and well aware that it is difficult to punish a patient, who will leave the hospital only to re-enter civil life.

These conditions demand that special provi-

sion be made to prevent the men developing incurable habits of laziness during their long sojourn; to guard against depression of spirits by inducing them to employ their time usefully, to maintain reasonable order and discipline, and to fit them to earn their own living on their restoration to civil life, by teaching them some trade which they can follow, in spite of their disability, and, finally, by curative training to re-educate the damaged part and restore its lost function.

Briefly, I will tell you how these objects were attained.

Self respect and military smartness were encouraged by allowing patients in orthopædic hospitals to wear their ordinary uniform, with the addition of a blue arm band in place of the hideous, sloppy hospital uniform, whose general use the regulations compel. Special leave of absence of several hours daily, with week-end leave from Saturday to Monday was granted, in so far as it did not interfere with treatment.

Both these privileges were contingent on the patient working regularly at his allotted occupation in the workshops or hospital generally, and could be withdrawn as a punishment for infractions of discipline. The object aimed at was to make the men regard themselves as useful workers with a definite occupation, and to discourage an attitude of chronic invalidism.

The workshops comprised a smithy, machine shop, leather shop, carpenter's shop, tailor's shop, boot maker's shop, painter's shop, cigarette maker's factory, photographic studio, cinematographic studio, and lastly, and from our point of view most important of all, a splint shop.

A splint shop is, above all others, a necessary adjunct to every orthopædic hospital. In addition to the great saving in expenditure that is effected by being freed from the necessity of having the individual splints made as required by a firm of surgical instrument makers, there is a gain in time and in efficiency when the mechanician is in close touch with the surgeon, and can be shown on each individual patient the exact details that are required. Furthermore, the various types of metal splints now recognized as the best, as well as the most sanitary, and large supplies in assorted sizes of gutter splints, Thomas's bed knee splints, abduction frames, humerus extension splints, and arm abduction splints, require to be made and to be kept in stock.

A note was taken of each man's civil occupation immediately on his admission to hospital, and it was inscribed at the head of his case sheet to keep it prominently in the mind of his medical officer. As soon as his physical condition permitted, he was put to work—at his own trade, if facilities for carrying it on existed in the workshop, and his disability did not prevent it—or if this were not possible, he was assigned to the workshop adjudged most suitable for him, and there properly instructed in a new trade. Each individual shop was in charge of a competent man, usually an ex-patient of low medical category, unfit for active service, who would be retained in the Army and posted to the hospital for duty, when he would be utilized as an instructor. An exception to this was made in the case of the splint shop, where it was found necessary to employ two trained splint workers. In addition to the actual workshops, all the routine repair work of the hospital, as well as the gardening and cleaning, were done by the patients. Even the hospital police consisted entirely of patients. A system of time cards was instituted to check the men's attendance and prevent them from absenting themselves from work without due cause. If a man had to leave work temporarily, for example, to attend the massage or electrical department, an entry had to be made on his card to that effect, and the entry initialled by the head of the department.

The workshops generally were under the control of a lay superintendent, who gave his services gratuitously, and the whole expense of building and equipping the shops was borne by the British Red Cross Society.

With regard to the men whose work was to be of an essentially curative nature, these were under the charge of two specially appointed medical officers, who selected the exact type of work most suitable for each individual, and who exercised their supervision to prevent damage to or overstrain of any member. It was in the carpenter's shop that most scope was found for this curative work. For example, the act of planing wood was found to be an excellent method of increasing the range of movement in the elbow joint. For stiff wrists and fingers the use of almost any tool in the carpenter's shop was found beneficial. This scheme had its chief success in avoiding the monotony and apparently purposeless nature of the mechanical exercises of the average gymnasium. So successful was it that in many cases the greatest care had to be exercised to prevent the patients overdoing it, and thus retarding their recovery. One never met with the same occurrence in the use of the Zander machines, the dummy bicycle, or any of the other mechanical exercises. All of these possess the inherent defect of concentrating the patient's mind on his disability, whilst useful work distracts it, and unconsciously he strives after the greatest functional use of the damaged part.

The equipment of the hospital generally, as well as of the special department, was complete in every detail. The money for the building and equipment of most departments is provided by the Red Cross, whilst the gymnasium was built and equipped at the expense of ex-King Manuel. The massage and electrical departments between them employed 40 trained masseuses from the Almeric Paget Massage Corps. There was also an extensive Hydro-Therapeutic department, whose equipment included, amongst others, aeration baths, whirlpool baths, contrast baths, and the various forms of douches.

The gymnasium was utilized largely for hardening convalescent men prior to their discharge to duty, and it was a favourite procedure to send any man who belonged to the indolent type to the gym-

nasium for a daily hour of general gymnastic work. It was, of course, also largely used to extend the range of movement of stiff joints and to build up wasted muscles.

There was a separate department where all the plaster work was done, and, finally, a museum has been established, where faithful records of interesting cases are preserved. These records take three forms—plaster casts, photographs, and paintings; and in this manner records of the cases before and after treatment, as well as when desired at intermediate stages, are made. For this purpose a plaster moulder, who is a man of considerable skill, is employed, whilst the photography and painting are done gratuitously by voluntary workers. To sum up the impression that the orthopædic hospital gives is that of an active, bustling, wide-awake community, productive and useful, and there is none of the sepulchral gloom that one might reasonably expect to find in a gathering of 1,200 men nearly all grievously maimed. It is interesting to note that the Americans, with praiseworthy enthusiasm and astuteness, recognized the importance that orthopædics would play in military surgery immediately on their entry into the war, and before a single American soldier landed in France, one hundred American orthopædic surgeons were enlisted in the United States Medical Corps, sent to England, and there distributed amongst the British orthopædic centres with a view to their gaining experience in the military side of orthopædic surgery. These men, when sufficiently trained, are to be divided into two groups. The younger are to be sent to France, where each American hospital will have an orthopædic surgeon attached to its staff. In France the Americans have already evolved the excellent scheme of a rest camp for men partially and temporarily disabled by affections such as flat feet, hammer toes, sprains of joints, etc., and the medical control of this camp is vested in an orthopædic surgeon, whose duty is to render these men again fit for active service as early as possible. The older American orthopædists are to be returned to America, ready to take charge of the orthopædic work when the American wounded return to their own country. This provision on the part of America for the future welfare of her disabled men, taken when she had scarcely yet fired a shot, stands out in striking contrast to the policy of procrastination of the Commonwealth Government, which has allowed nearly four precious years to pass by, and is only now about to make an attempt to organize the treatment of these cases.

(To be continued.)

THE TREATMENT OF PHTHISIS BY MEANS OF PARA-TOLUENE-SODIUM-SULPHOCHLORAMINE (CHLORAMINE-T.)

By **F. W. Waters, M.R.C.S., L.R.C.P.,**
Adelaide.

The treatment of pulmonary tuberculosis has so far (except in very early cases) been, practically speaking, hopeless. When Koch announced his tuberculin as a sure cure, hope rose again, and I think rightly so, for the theory of its action is a very engaging one, and appeals to the medical mind as being on the correct lines of treatment, as does also the use of vaccines, phylacogens, etc. I must have given thousands of injections of tuberculin both by Koch's method and by Wright's, and the results have been utterly disappointing, and I have discontinued its use for some years, except in cases of bone and gland disease in which it sometimes seems to act like a charm.

Although, theoretically, the tuberculo-vaccine path should be the correct one to follow, still I have always inclined to the opinion that the real cure would eventually be found in some substance other than a vaccine injected, taken by the mouth, which, whilst harmless to the host, would be destructive to the tubercle bacillus; and after trying all sorts of likely and unlikely materials during the last fifteen or sixteen years from pure urea, through solutions of chlorine gas to nascent iodine, sometimes combined with artificial pneumo-thorax and sometimes alone, I have lately been using chloramine-T.; and the results are so surprising that, although I am not at present prepared to make a full report and shall not do so until I have a fairly long series of cases completed; still I do not feel justified in remaining silent in view of the many hundreds of patients (including very many returned soldiers) who would probably be dead by the time my investigations are finished, and meanwhile the treatment can be tested thoroughly by other medical men.

The bactericidal action of chloramine-T. seems to be brought about by the chemical combination of the contained chlorine with the nitrogen of the bacilli. This is very well put in Carrell and Dehelly on "Infected Wounds" (p. 51), where they say that the

> Germicidal action of chloramines is due to the fact that the substances, such as proteins, amino-acids, urea and ammoniacal salts, which constitute living organisms, contain nitrogen under a form which can attract the chlorine of the different species of chloramines,

and so effect the destruction of the bacilli.

I have so far tried the treatment only on very chronic and utterly hopeless cases, and I have had to proceed somewhat warily, as I could find no records of chloramine-T. ever having been administered by the mouth. I began with a spray of a weak solution (2%), but found it useless, and so I gave teaspoonful doses of a 2% solution every four hours, and gradually increased until 0.6 gm. doses were being taken every four hours. I found this caused a certain amount of gastric discomfort and even occasional vomiting, and finally reduced the dose to 0.3 gm., and find that all the patients can tolerate this amount, especially if it is taken immediately after meals.

I have made a practice of frequently examining the sputum and counting the number of tubercle bacilli present, and the results have been most interesting—at first a slight fall, followed by an enormous and rapid rise in number so as to be practically uncountable, so much so that I began to lose all hope, until I found that all the cases behaved in an almost identical fashion, and the larger the number of bacilli

in the sputum the more the patient seemed to improve in condition, although during the rise the patients say they feel "rotten." The physical signs grew less marked, the sputum decreased in amount, the usual afternoon temperature gradually fell, and the energy increased. A patient, who was almost bedridden, began to want to move about and "do a little gardening." One man, who did nothing but lie in bed or sit in his chair all day, came himself to the door to let me in when I called, and explained to me that he was a little short of breath, as he was at the end of his garden attending to his fowls and had hurried to let me in.

After this enormous rise in the number of bacilli, which usually takes place from the tenth to the fifteenth day of treatment, or even later, and remains high for from three or four days to a week, there is a gradual fall, the condition of the patient still steadily improving owing to the decrease in the toxæmia present in these cases. The signs of cavitation are more clearly defined on account of the marked decrease in the amount of contained fluid, bronchial breathing, especially, is very distinctly heard over the sites of cavities.

I do not think the counting of the number of tubercle bacilli present in the sputum is at all essential to the carrying out of the suggested treatment. All that is really necessary can be known by watching the condition of the patient, and by the results of the physical examination of the chest.

In making a smear I usually pick out fragments of sputum from two or three different spots in the mass, stain by the Ziehl-Neelsen method, counterstain with methylene blue, and examine with a $^1/_{12}$ oil immersion lens and a No. 4 Zeiss eye-piece. A mechanical stage is almost essential. I take my fields from all parts of the smear, discarding any not well covered, and usually count twenty fields and strike an average. Sometimes, for my own satisfaction, I counted forty or sixty, or made a fresh smear, but I always make a point of entering the first count, good, bad or indifferent, on the chart. Of course the method is crude and does not pretend to any degree of accuracy, but comparison of a number of charts shows an almost identical first slight fall followed by the rapid, uncountable rise I have referred to, and then the gradual decrease in numbers.

I advance no claim to have discovered a specific for the treatment of consumption; time alone will prove its worth or otherwise.

"If" present promises materialize, it means that the most dreaded scourge of the human race will cease to exist; "if" they do not, then it will only be another added to the long list of disappointments that we, as a profession, have had to meet and face. To use Mr. Asquith's famous phrase, we must "wait and see."

In view of the announcement of Professor Lomonaco in Italy, of the discovery of a "cure" for consumption in a "saccharin solution," it is interesting to note that chloramine-T. is made from a bye-product, produced in the manufacture of saccharin, and that it is made in England. This "saccharin" solution, according to the latest cables, appears to be a "sucrose" solution.

Reports of Cases.

TWO CASES OF SIDEROSIS.[1]

By J. Lockhart Gibson, M.D.,
Consulting Ophthalmologist, First Military District, Brisbane.

Lieutenant A., aged 22, was referred to me by Lieutenant-Colonel MacDonnell, the Officer Commanding the No. 6 Australian General Hospital, on April 24, 1918, because he had noticed for some few months that the sight in his left eye had been less good than formerly. A high explosive shell had burst near him, injuring his back very seriously, and his left cheek very slightly, the latter he had thought by gravel. This was in November, 1916. He had no reason then to think that his eye had been injured. His left pupil was noticed to be bigger than his right some months later. He had noticed no difference in his sight until a few months ago. He believed that he saw as well with the left as with the right eye when he returned to Queensland in April, 1917. He had noticed a change in the colour of the eye for three or four months.

Examination.—Right eye: the iris is a hazel grey colour and the pupil natural. The left eye: the iris is a rich, yellowish brown colour and the pupil mediumly dilated and nearly insensitive to light. The aqueous of the left eye is a little turbid. A view of the fundus is obtained through hazy media, although there are no macroscopic opacities in the media. Apparently the aqueous, the anterior capsule of the lens and the vitreous are all slightly hazy. A large patch of denuded sclerotic is found in the lower fundus, at its periphery. This is evidently an area of ruptured or destroyed choroid. No mark which can be certainly called the scar of a wound is to be found in the cornea or sclerotic. Still, a small scar at the limbus can be very unobtrusive.

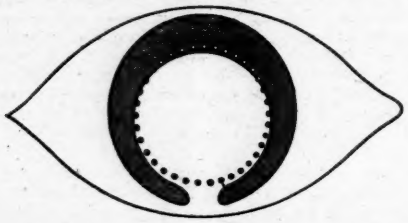
The wound in the fundus and the discolouration of the iris and turbid media pointed forcibly to a contained steel foreign body. The vision of the eye was $^6/_{24}$ and one letter of $^6/_{18}$.

Dr. Love proved the existence of a foreign body by X-rays. It was behind the lens and ciliary processes, in the lower fundus, *i.e.*, in the neighbourhood of the wound in the fundus. The X-ray picture suggested that it might be almost through the sclerotic coat, but the siderosis (rust-stain) made it certain that the foreign body was not only steel, but that it was within the sclerotic coat. It was decided to try to remove it by the giant magnet. Some delay was caused by an operation to his back, and I did not put him before the magnet until May 18, 1918. Atropine had dilated the pupil, but not to complete dilatation, and some fine projections backwards from the iris, external to the margin of the pupil, were noted. The eye was cocainized, the magnet's bluntest conical end was employed, and it was sterilized. The centre of the cornea was gradually approached to the magnet's point, and no sensation produced, and no foreign body brought into the anterior chamber. Again the eye was approached to the magnet, with the centre of the cornea in contact with the blunt point of the magnet, and the full strength (220 volts) turned on. A feeling of pain in the eye resulted, and the foreign body came forward into the anterior chamber by tearing its way through the periphery of the iris and bringing a small tag of iris forward with it. This tag of iris was detached from the periphery of the iris, but remained attached to the pupil's edge. To this tag of iris the foreign body firmly adhered, and a linear incision was then made in the cornea, parallel with the lower periphery, by means of transfixing with a Graefe's knife, *i.e.*, with the back of the blade backwards and the cutting edge forward. A little aqueous came away, but although the patient was in the sitting position, the anterior chamber was not abolished. The wound of the cornea was then placed in contact with the magnet's point and the current turned on, when the foreign body came through the wound and adhered to the magnet. The little tag of iris was drawn through the wound by the emerging foreign body, and adhered to the iris only at the margin of the pupil. The tag was caught with iris forceps and snipped off, including the edge of the pupil. This has resulted in a minute coloboma. The eye did not

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on June 7, 1918.

seriously resent the operation. The piece of steel weighed 2.4 milligrammes. It was evidently suffering erosion from the fluids of the eye. The long axis of a steel foreign body adheres to the magnet point with its long axis vertical to the surface of the magnet, showing that the attractive force draws the foreign body towards the magnet, with its long axis in the line of the exerting force, which is, of course, an advantage. The rescue of a piece of steel from the vitreous chamber after a residence there of eighteen months is a distinct triumph for the giant magnet.

This case supports the contention in my last paper that a small transfixing incision of the cornea, between the edge of the pupil and the limbus in its lower portion by a Graefe's knife, and the utilization of the giant magnet for removing the piece of steel through this incision are to be preferred to a keratome incision in the upper cornea and the use of a hand magnet. In this case it would have been necessary to have introduced the hand magnet into the eye, because of the fine attachment the piece of steel had formed to the strip of iris in forcing its way through the iris. The fact that the piece of steel was not delivered through the pupil somewhat puzzled me at the time, but was explained a week after, when the eye was carefully re-examined. Continuation of atropine had enlarged the pupil to full dilatation, and revealed a complete ring of brownish dots on the anterior capsule of the lens, each spot indicating where a fine adhesion of the iris, somewhat external to the edge of a mediumly



dilated pupil, had been. One adhesion, in fact, at the outer edge of the coloboma, still holds, though very stretched and very fine. These you have seen very clearly to-night. The spots are not merely aggregations of microscopic siderotic particles (rust particles), as suggested recently by Dr. Ivor Tuckett in the *Journal of Ophthalmology*,[1] when reporting a somewhat similar case. The fine adhesions, which were very rust-stained, were evidently due to a very subacute iritis, set up by the siderosis; and, further, I think these adhesions would largely explain the peculiar behaviour of the pupil, not only in my case, but perhaps also in Dr. Tuckett's. In my case, as the adhesions were not at the edge of the pupil, they would account for some dilatation of the pupil and for its feeble sensitiveness to light. As a matter of fact, similar dot-like adhesions of the iris still remain above where the pupil is not quite so dilated as elsewhere. The adhesions of the iris to the lens had, in my case, prevented the foreign body from entering the pupil, and the force of the magnet was great enough to drag it through the iris, although the magnet's blunt point was against the centre of the cornea, in fact, rather above the centre after the piece of steel reached the iris. The removal of the foreign body, helped by the traction of the tag of iris when the foreign body was drawn with it through the wound in the cornea and by the small iridectomy, allowed atropine to dilate the pupil fully and to break down the numerous fine siderotic adhesions to the lens. The complete ring of fine siderotic dots you could see very clearly in the case as shown to-night (see Figure). The eye has been more comfortable since, but the media still show a very fine haziness, but no localized opacity of the lens, just a fine deposit, like very fine dust, on its anterior capsule. I have hopes that the media will clear. So far the sight remains practically what it was when noted three weeks before the rescue of the foreign body, *viz.*, $^{6}/_{24}$ and $^{6}/_{18}$ partly. I have great hopes that the fine opacities in the media will gradually clear up and at least $^{6}/_{6}$ of vision be obtained.[2]

The case illustrates a point I tried to insist upon in my recent paper, *viz.*, that a piece of steel remaining in the eye and in contact with its fluids may be expected sooner or later to set up siderosis, *i.e.*, to rust-stain the tissues of the eye. Evidently, also, it will set up a low or subacute inflammation of the uveal tract, with resulting turbidity of the media, formation of adhesions and gradual destruction of the eye. It also illustrates that the first application of the giant magnet may have no result, and yet a second application may be successful.

I believe again that the greater size and power of the magnet I have, as compared with the ordinary Haab, proved an advantage in this case. The magnet is said to be capable of lifting 600 lbs.

The other case may be called a case of siderosis, localized almost to the lens, and extending to influence the iris and ciliary processes acutely after operation. It is of interest also because X-rays failed to help us in the diagnosis.

Lieutenant B., aged 26, was referred to me by Lieutenant-Colonel MacDonnell, Officer Commanding the No. 6 Australian General Hospital, on March 5, 1918. In March, 1917, *i.e.*, a year previously, a piece of shell had entered his left eye. It was, he says, removed under cocaine at a field dressing station. It was sticking out of the eye, he says, and propping up the lid. The eye was not examined by X-rays for some months afterwards, but was then twice subjected to this process in England with negative results. At first the eye saw fairly well, but a cataract gradually formed. He was also wounded in the face and elsewhere.

Examination.—The right eye sees $^{6}/_{5}$ partly, and the left eye traces of light. The left eye shows a small central scar in cornea and a ripe cataract, which looks as hard as a mature senile cataract. Under atropine there is an appearance as of a foreign body in the lower inner quadrant of the lens, under cover of the iris until the pupil is dilated. The lens has the colour of a brown senile cataract. I considered it important to decide, if possible, whether the darker spot in the lens was a foreign body or not, because, if it were a foreign body and not steel, the lens should be removed whole. If steel, it should be brought into the anterior chamber and removed and the lens then broken up, and caused to dissolve. If it were not a foreign body, the lens might be simply broken up and dissolved.

Two X-ray photographs were taken for me, but failed to reveal a foreign body, and confirmed the negative photographs taken at Wandsworth Hospital. I then placed the eye before my giant magnet, but without cocainizing the cornea, and perhaps half-heartedly. At any rate, the suspected foreign body was not attracted. I decided to break up the lens and cause it to dissolve. I did a discission. The eye resented it very markedly; it became deeply injected, and exhibited increased tension for two days, and considerable pain the first night. Evidently, as was explained later, marked irritation of the iris and ciliary processes had resulted, owing to the liberation from the lens of some fine rust particles. The lens was evidently very solid, and dissolved slowly, but the irritation subsided, and though some injection persisted, the tension became normal.

At the operation I was again nearly convinced that the spot was a foreign body; and as the lens partially dissolved, I became sure of this. An incision was therefore made in the upper cornea with a keratome and fine forceps introduced up to the supposed foreign body situated in the lens substance behind the lower inner edge of a fully dilated pupil. A minute foreign body was removed, and, strange to say, it proved to be magnetic. It weighed 0.16 milligramme. The eye again resented the operation, no doubt again from the stirring up of fine rust particles, but soon quieted, and the lens has since dissolved much more quickly. Some rust-stained portions of the lens you saw to-night in the anterior chamber. The eye is likely to have good vision with correction. The case interests me because, while on active service, a very experienced radiographer failed to localize for me a small foreign body of steel, plainly showing through and under cover of the iris in the lower inner quadrant, really in the same position as the one just dealt with. When the piece of steel was removed and placed in a piece of meat it was detected by X-rays with the greatest ease. These suggest that a negative Röntgenological result when searching for particles in the anterior segment of the eye and in its lower inner quadrant may not be as reliable as it is for particles in other parts of the eye.

Curiously enough, only this morning I removed from the eye of a Tweed River blacksmith a piece of steel weighing

[1] *Journal of Ophthalmology*, 1918.
[2] The vision is now $^{6}/_{12}$ and is improving.

14 milligrammes, which had entered his eye exactly 24 hours before. It had punctured the cornea, passed through the iris in its lower inner quadrant, leaving a very perceptible hole, and passed through the lower inner quadrant of the lens, which was cataractous. It was easily brought by the giant magnet into the anterior chamber, and then through the corneal wound, after this had been decidedly enlarged. The eye is likely to do well after the lens dissolves. Although the piece of steel was large, it was allowed to remain in the eye for only a short time. I do not know how far back in the eye it had reached, only that it got through the lens, possibly only just through it.

PULSATING EXOPHTHALMOS DUE TO RUPTURE OF CAROTID IN CAVERNOUS SINUS.[1]

By **J. Lockhart Gibson, M.D. (Edin.), M.R.C.S. (Eng.),**
Brisbane.

M.M., aged 19 years, was brought to me on March 26 of this year, with the following history: She had a fall from a horse last November; the left shoulder was bruised, and the left side of her face also, and the left eye became black and swollen. She remounted her horse and rode home. She remained in bed for four or five days, and saw no doctor until she consulted me. On that date I noted the following: She complained of throbbing and noise in the head, but not of headache. Her left eye was noticed to be prominent; she thought that the left eye saw well.

Examination.—The left eye is markedly proptosed; when the lids are closed it can be plainly seen to pulsate. The pulsation can be plainly felt. Vision of each eye is $^6/_5$ partly. The right eye is only a trifle better than the left. The fundus is healthy, and there is only a very little turgidity of the veins. A very loud *bruit* is heard over the left temple, the root of nose, and over the eye, less clearly elsewhere over the head. The *bruit* is a continuous one, with accentuation at each systole. The *bruit* can be heard loudly over the internal jugular in the neck, and here also it can be felt as a thrill. The fundus of the right eye is normal, but there is a markedly pulsating vein in the disc, due to a physiological peculiarity, *i.e.*, to a vessel bending sharply over the edge of a physiological cup.

Pressure on the common carotid in the neck stops the *bruit* and the pulsation of the eye and in the orbit. There can be no alternative to a diagnosis of rupture of the carotid in the cavernous sinus, due to the fall, and a result of indirect violence, or possibly of direct violence from fracture of the base.

The patient was shown and the above signs demonstrated at the April meeting of the Branch. Dr. Jackson agreed with me that the first thing to do was to tie the left common carotid in the neck. He kindly did this on about April 15. You will have noted the result this evening.

She seldom hears any throbbing or noise. She told me the other day that she had heard none for a week, and that it is becoming less than it was after the operation. The proptosis has nearly disappeared. There is little or no *bruit* to be heard over the temple, a little over the internal jugular, where a faint thrill can still be felt. Vision has been somewhat less than when I showed her before, *i.e.*, $^6/_9$ and $^6/_6$ partly. The fundus of the left eye is normal, except for two small white patches above and to the inner side of the macula, apparently of exudation. Possibly they occurred after the ligature of the artery, as she noticed that the sight of the eye became less. There have been no hæmorrhages. At present enough appears to have been done.

I showed a case of pulsating exophthalmos due to a large rupture of the carotid in the cavernous sinus at the Queensland Medical Society in 1896 (*Australian Medical Journal*, April, 1896), and read further notes of it nine years afterwards (*Australian Medical Journal*, March, 1905) with exhibition of the post mortem appearance of the cavernous sinus, ruptured artery and alteration to the parts of the skull related to the sinus. I had tied the common carotid with much benefit, but my conclusion after the post mortem examination was that the boy, who lived and developed well from eight years old until he was seventeen years old, might have had his life much further prolonged had I followed up the ligation of the common carotid by ligature of the internal carotid also. Heavy manual labour caused a rupture of his distended cavernous sinus. The case makes one of ten cases mentioned in Keen's "System of Surgery," whose diagnosis was proved post mortem.

Ligature of the superior ophthalmic vein has been advised for pulsating exophthalmos, both with and without a previous ligature of the common carotid.[1] Some recommend it strongly. It may be sufficient for some varieties of pulsating exophthalmos. It appears to me, however, that our chief object in a case of rupture of the carotid in the cavernous sinus is to diminish pressure in the sinus in an endeavour to save the patient's life. Pulsating exophthalmos is only one of the symptoms arising from the rupture. Ligature of the superior ophthalmic vein would doubtless diminish the pulsating exophthalmos, but could have no reducing effect on the increased pressure in the cavernous sinus, and would not safeguard the patient from rupture of the sinus. This present case should be watched, and if the improvement obtained is not maintained, it may be right to ligature the internal carotid. If the pulsating exophthalmos increases without any increase in the other symptoms of a distended cavernous sinus, we may favour tying the superior ophthalmic vein. Such symptoms as paralysis of the third, fourth, ophthalmic division of the fifth, or of the sixth nerves, all of which lie in the wall of the sinus, would be evidence of increasing distension of the sinus, and the increase or diminution of the *bruit* in the internal jugular vein will give valuable information.

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on June 7, 1918.

[1] Golovine, *British Journal of Ophthalmology*, March, 1918.

Reviews.

WOUNDS OF THE BRAIN.

A consideration of the later sequelæ of wounds of the brain, based on an experience of 5,000 cases, appears under the title "*Blessures du Cerveau*," by Charles Chatelin.[1] This volume will appeal not merely to the neurologist, who will find clinical material throwing further light on obscure subjects, but also to the inexperienced practitioner, little used to the investigation of neurological cases. In the first part of the book a detailed scheme for the proper interrogation and examination of these cases is laid down, and at the beginning of each chapter an introduction to the anatomy and physiology of the part of the brain under discussion is given, which is a useful key to the context.

In the second part are studied those syndromes associated with injuries to various centres.

The author states that the large amount of material provided by the war has brought to light no new conception of the functions of the frontal lobes. He claims, however, that further confirmation has been received of Pierre Marie's conception as regards aphasia, and it is affirmed again that the left third frontal convolution does not belong to the zone of language; that anarthria is due to a lesion of the lenticular zone, not necessarily on the left side, and that true aphasia is limited to the territory of Wernicke on the left side, which itself is not a sensory, but an intellectual centre.

In the Rolandic area war injuries have developed a large number of true monoplegias. In civil life these have always been rare, and have been observed mainly in the very early stage of development of a cerebral tumour. Lesions of the occipital lobe have demonstrated the extraordinary systematization of the visual sphere. Whereas formerly the most frequently occurring phenomenon was lateral homonymous hemianopsia, cases have been quite common in which there were *hemianopsia en quadrant*, inferior hemianopsia and hemianopsic scotomata of all varieties.

The surgical aspect of the subject is considered in a separate volume, under the authorship of Martel. Pierre Marie, however, in an introductory note to the present volume,

[1] Les Blessures du Cerveau, par Charles Chatelin, Préface du Professeur Pierre Marie; Deuxième édition, remaniée et augmentée; 1918. Paris: Masson et Cie (Collection Horizon, Précis de Médecine et de Chirurgie de Guerre); Demy 8vo., pp. 809, illustrated. Price, 4 francs.

considers it his duty to declare once more that, at least in the early days of the war, skull injuries were operated on much too often, much too soon, and much too near the front lines. He quotes Martel as saying that there is practically no urgent surgery of the skull, that there is no parallelism between a skull and an abdomen containing hollow organs that leak septic material when wounded, and that the only urgent war surgery is that which concerns the digestive tract and the circulatory system.

DISEASES OF CHILDREN.

In the third edition of his book[1] on diseases of children, Dr. George M. Tuttle, of St. Louis, has, with the assistance of Dr. P. G. Hurford, thoroughly brought his manual up-to-date, and it may now be recommended to students and practitioners as a good résumé of the present state of knowledge of medical and surgical diseases of children.

It is an impossible task in a handy volume of 500 pages to give anything but a sketchy résumé of the treatment of the various diseases, but what Dr. Tuttle does give is extremely valuable, and the modern tendency, to avoid the use of drugs in most illnesses of children, is well indicated throughout this book.

The arrangement of the book shows nothing novel; the classification of the disorders of the stomach and intestines followed is that of Finkelstein, which makes for simplicity, although leaving many things to be assumed about digestion, absorption and metabolism.

With regard to maternal nursing of infants, the prevailing tendency to increase the interval between feedings is emphasized, three hours being the interval advised during the first month.

An interesting and simple description is given of the percentage and caloric methods of feeding infants. The separation of the fat of cows' milk and the subsequent attempt to recombine it and generally to tinker with a natural food, such as milk, has never appealed much to Australian workers amongst children, and it is extremely interesting to see a footnote on page 73 of this volume to the effect that: "Practically all the feeding of normal babies in the St. Louis Children's Hospital and the Out-patient Department of Washington University, St. Louis, is done by simple dilution of whole milk." We may yet live to see a future edition of this book saying that, as cows' milk and human blood are isotonic, the best results in feeding healthy infants follow the giving of cows' milk without any dilution at all. Australian infants digest full milk perfectly well if given three to four hours to digest it, and probably American babies will do the same if given the chance.

The book is well printed, the illustrations fairly numerous and good, with the exception of a picture of two children with deformities due to rickets, who have moved badly before the camera, and another picture, supposed to show the *main en trident* in anchrondroplasia, which fails to demonstrate its point at all clearly.

There are a few mistakes and omissions that should not appear in a third edition, such as, broncho-pneumonia is called lobar pneumonia on page 327, and in speaking of Holt's method of measuring the butter fat in milk, the time of standing (24 hours) is omitted; also the treatment of tubercular disease of the knee is omitted. A few statements made are open to criticism, such as: "In acute arthritis of infants the gonococcus is more frequently the cause than other organisms." This is certainly not our experience in Australia, where the pneumococcus is the offending organism most frequently.

"Fatal cases of chorea occur without involvement of the heart" is a statement that wants revision. Also, in speaking of tubercular cervical glands, it is said "that they may develope acute tuberculosis after many years makes the outlook rather poor." A recent investigation carried out in the sanatoria for the tuberculous patients in America rather tended to prove that this statement was open to considerable doubt.

In epilepsy no mention is made of nasal obstruction as a cause.

Taken as a whole, the book is very well balanced, and will be of great assistance to students attending clinical instruction at hospitals for sick children.

[1] Diseases of Children, A Manual for Students and Practitioners, by George M. Tuttle, M.D.; Third Edition, thoroughly revised and enlarged; 1917. Philadelphia and New York: Lea & Febiger; Crown 8vo., pp. 599, with 47 illustrations and three plates. Price, $3.50.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A meeting of the Senate of the University of Sydney was held on August 12, 1918, at University Chambers, Phillip Street, Sydney.

The following degrees were conferred: *In absentia*—Ch.M., N. E. B. Kirkwood and A. D. McKenzie. In person—Ch.M., T. K. Potts; B.D.S., G. E. Newcombe.

A letter was received from the Pharmaceutical Society of New South Wales, forwarding a donation of £100 for apparatus for the Department of Pharmacology. It was resolved that a letter of thanks be sent.

Mr. G. C. Saxby wrote, forwarding the sum of £150 (deferred pay) for the foundation of a prize in mathematics in the Department of Engineering, as a memorial of his son, Kenneth Saxby, a first-year engineering student, who had been killed in the war. It was resolved that the offer be accepted with thanks and the conditions mentioned in the letter approved.

A letter was received from the Joint Secretaries of the Hinder Memorial Fund, forwarding £240 subscribed for the establishment of a prize in Clinical Surgery, in memory of the late Dr. Hinder. It was resolved that a letter of thanks be forwarded and the proposal carried out.

A letter from the Rhodes Trustees, notifying the postponement of the selection for scholarships this year, and stating that candidates now eligible would be held to be qualified whenever selections are made, was received.

A letter was received from the University of Queensland in regard to the resolutions respecting matriculation requirements passed at a conference of representatives of the Australian Universities.

On the recommendation of Professor Wilson, it was resolved that further courses of instruction for massage students be commenced in Michaelmas Term.

On the recommendation of Professor A. Mackie, Miss Ethel Mallarky, M.A., was appointed to deliver a course of ten lectures on "The Teaching of English in High Schools."

On the recommendation of the Joint Committee for Tutorial Classes, the Venerable D. J. Davies, M.A., F.R.H.S., was appointed full-time tutor in history and economics.

On the recommendation of the Faculty of Science, it was resolved that students who have taken Agricultural Chemistry I. in 1918 as a second-year subject for the degree of Bachelor of Science be permitted to take Principles of Agriculture I. and Agricultural Chemistry II. as one of their third-year subjects.

An adjourned meeting of the Senate of the University of Sydney was held on August 19, 1918, at University Chambers, Phillip Street, Sydney.

A letter was received from Professor Barraclough, reporting on the work of Mr. W. H. H. Gibson, Walter and Eliza Hall Fellow.

Dr. W. J. Stewart McKay's offer to present his collection of works on Dante was accepted with thanks.

The following motions, of which notice had been given, were adopted:—

On the motion of Mrs. Dwyer:—

> That the Government be asked to introduce legislation that will enable women to enter the legal profession.

On the motion of Sir Thomas Anderson Stuart:—

> That a Board of Studies in Pharmacy be appointed, to consist of the Warden, the Dean of the Faculty of Medicine, the Professor of Pharmacology, the Professor of Chemistry, the Professor of Organic Chemistry, the Professor of Botany, the Professor of Zoology, the Lecturer and Demonstrator in Pharmacology, the Chairman of the Pharmacy Board.

The Medical Journal of Australia.

SATURDAY, SEPTEMBER 7, 1918.

Military Orthopædics.

The excellent description of the organization of the Orthopædic Centre at Shepherd's Bush which Dr. Teece gave to the members of the New South Wales Branch of the British Medical Association and which we publish in this issue will bring forcibly to the minds of those interested in the repatriation of our wounded soldiers what is needed and how much work has still to be done before we can hope to discharge our obligations to those who have fought and suffered for the safety of the Empire. This article is timely. The authorities have at length taken steps to place this work on a sound foundation. We have urged the authorities to organize an orthopædic system or service for nearly four years. Time and time again we have pointed out that the wounded man should be given a chance, the best chance, to regain functions lost as a result of his war wounds. Satisfactory results can only be achieved if the re-education work is commenced as soon as the urgent treatment has been completed, and the effort to minimize his defects should not be relaxed until it is clear that human skill and ingenuity can do no more. A few months ago a start was made. The Director General Medical Services summoned a conference of military medical officers holding high positions and those possessed of expert knowledge, for the purpose of discussing an orthopædic scheme. It is true that the programme did not extend as far as we would have wished. It was, nevertheless, a good beginning. The second step was the appointment of Dr. R. D. Wade to the position of Inspector of Orthopædics for the Commonwealth. His wide experience and undoubted ability are now being employed in the preliminary arrangements. Orthopædic annexes (we hold that the term curative workshops is a disadvantageous one) have to be planned in connexion with every military hospital. The members of the staffs of the orthopædic departments and of the annexes have to be selected with judgement and care. There are many surgeons who apparently do not realize the meaning of the term orthopædics, as it is applied at present. The reconstructive work required is very special work, which only those who have had special training and have given particular attention to its study can undertake with advantage. Some surgeons of great eminence are quite unsuited, both from experience and from inclination, for the positions that will now be created in this new department of the military machine. There will be some disappointments, when the final selections are made and when the work is allotted to special officers. The task is being undertaken in the interests of the maimed soldiers, and the selection may only be made with the view to the attainment of the best results. There are many other details of organization that must be determined upon, each of which requires the measured consideration of an expert adviser. Dr. Wade will have the support of the mass of the medical profession and of the whole of the community, if he carries out his onerous duties fearlessly, and without favour.

The authorities have done well. But they must do better. The orthopædic scheme must be traced across the ocean to England and thence across the Channel to Belgium, Flanders and France. There must be continuity of action and the men needing professional re-education must be taken in hand at a very early stage. To obtain ideal results, a sister service should be instituted side by side with the orthopædic service. The neurological service should be organized in such a manner that Australia's most skilled neurologists and psychiatrists should be available for those wounded and maimed men who need their expert assistance. We can learn a wholesome lesson, not only from our kith and kin in the old country, and from our allies in France, but also from the great ally who has but recently joined us in the mammoth struggle. In spite of our geographical difficulties, we can and should do as much for our men as Britain, France and America does for theirs.

THE TREATMENT OF LODGE PATIENTS.

It is by no means uncommon for people to throw stones at a group or class because of the utterances of one man. In connexion with the obligations of medical practitioners no one has authority to set up standards, unless these standards have been adopted by

the profession as a whole and have received the sanction of some representative body, such as the British Medical Association or the General Medical Council of Great Britain. The necessity of announcing the accepted principles which should govern the relations existing between patients and medical practitioners would not have arisen but for some unguarded and ill-expressed sentiments of a single practitioner in a court of law, and the sensational misrepresentation of his evidence in the daily press, first in New South Wales and subsequently all over the Commonwealth. With the evidence we have no direct concern, save to point out that the incident should serve as a warning to other men, little versed in the giving of evidence and unaccustomed to the use of words to convey a clear meaning. The newspapers and the friendly societies have seized on this unfortunate utterance, and especially on the warped versions published, to gloat over what is claimed to be an admission on the part of the medical profession that a distinction is made between the manner in which lodge patients are treated and the manner in which private patients are treated. There is but one set of rules governing the relations between medical practitioners and their patients. They are bound to exhibit all the skill, knowledge and ingenuity they possess in the endeavour to treat their patients successfully. The law requires this. A medical practitioner is held to be liable if he does not exercise reasonable skill and knowledge in the treatment of patients, and the law assumes that every medical practitioner is posseessed of a uniform amount of knowledge. Doctors agree to treat some patients without any remuneration at all; they accept from others a small, regular payment year in, year out, in exchange for medical attendance whenever it is required. They also undertake the treatment of patients under an implied contract, and can claim payment for the work done. In each case there is a definite undertaking on the part of the practitioner to carry out a certain thing. This undertaking differs from a commercial deal, inasmuch as when the tradesman offering goods for sale he charges a larger sum for a more valuable commodity and a smaller sum for a second class or inferior quality of goods. In the medical profession only one grade of service is recognized. Once the practitioner has accepted the obligation of treating a patient, no pecuniary or other consideration can excuse him from exerting all his energies in the struggle to free his patient from the disease or disability from which he is suffering. In the case of lodge patients, the recognition of the expense involved and time and energy occupied in the making of a diagnosis and in the application of the necessary means of treatment or attendance has rendered it necessary for medical practitioners to introduce specific clauses into their agreements with the friendly society lodges for extra remuneration for certain services. The lodge surgeon is bound, as a matter of honour and duty, to give his best attention to every lodge patient requiring his help, and would be deserving of the severest censure if he were to endanger the life of his patient, diminish his chances of recovery or fail to exercise every care in his treatment. The excuse that the means of treatment or the form of attendance involves additional expenditure of time or money, is no excuse at all. It is his duty to fulfil his contract with his patient to the last letter. Nothing less satisfies the dignity and honour of the medical profession.

WASTAGE OF LABOUR.

The Ministry of Munitions of the United Kingdom and Ireland has aimed at the greatest possible production of munitions that can be purchased at the least possible cost of money, health and time. Its object has been, in part, achieved by an extension of the system of manufacture in factories and by the employment of as much female labour as could be obtained. It had been suggested that the mobilization of women for national tasks is fundamentally a medical problem. The Health of Munition Workers' Committee has therefore co-operated with the Medical Research Committee in the investigation of the problems connected with labour in factories. It has been accepted that certain hygienic standards must be maintained in the material conditions of the factories, that the hours for work should not exceed a maximum which is different in different kinds of work, and that the proportion of day to night work and the system of payment, as distinct from the amount of wage, affect the rate of output.

Captain Major Greenwood has made a study[1] of the wastage of labour in these munition factories, expressed in terms of the rate of disappearance of workers unsuitably employed. The number of persons working in a factory during a period of a year or more is greatly in excess of the number of hands employed at any particular time. In a large factory with 40,000 hands at work in 1912 it was found that

[1] *A Report on the Causes of Wastage of Labour in Munitions Factories Employing Women*, Medical Research Committee, National Health Insurance; Special Report Series, No. 16. London, 1918. Price, 1s. 6d.

38,000 persons passed out of employment during the twelve months. At the end of the period there were 48,000 persons on the roll of the factory. In a munition factory with 6,237 hands, 2,791 women were engaged and 1,125 left their employment within three months. Although the majority of operations in a factory for making munitions do not require much dexterity in manipulation, practice leads to increased precision of work and greater rapidity of output. Even in the simplest type of operation an employee cannot obtain the maximal degree of efficiency until after some weeks' performance of the task. It must follow that a factory in which the workers are constantly being replaced by new hands, cannot produce as many munitions as a factory in which the working population does not alter. An investigation of the extent to which workers change their employment is carried out advantageously in regard to munition workers since some factors which render the problem more complicated are eliminated. The demand for munitions is constant, and, for practical purposes, infinite. No question of diminishing the output for any commercial reason ever arises. Further, there is "no stagnant pool" of intermittently employed hands to form a supply of additional workers who may be needed if business expands. On the other hand, the fear of poverty if the job is lost, operates less as a restraining factor against leaving employment, since the demand for most sorts of the labour is much greater than the supply.

The statistical method that has been used is analogous to that used in a table for the duration of life. Out of some basic number, *e.g.*, 1,000 women, starting work, how many will still be employed at the end of one, two, three or more months? The information for this compilation may be gathered in two ways. Cards may be prepared for each of the employees entering a factory between any two dates who leaves before the end of the period and for all who are still at work at the end of the period. With these cards it is easy to build up the number of those exposed to the risk of leaving at each unit of time and the number who leave during this period. Those exposed to the risk of leaving in the first unit of service will be those still at work after service for the whole period, those who left after having served for the whole period, and all those who left during the period. The rate will be the figure for the last group, divided by the sum total of the three groups. The second method is known as the census method. It requires less minute treatment, but is less accurate. It is based on the assumption that losses and gain are evenly distributed throughout each unit of time. For its application the number of entries and losses during each unit of time for some period of twenty or more units must be known. Further, the losses of each month must be classified according to the length of employment. The exposures to risk at each period can then be calculated back stage by stage.

The analysis of this report deals with 40,000 employees at work in eighteen different factories between August 4, 1914, and December 1, 1916, and between January 1, 1911, and August 4, 1914. The employees have been grouped into four classes: girls aged 13 to 17 years, girls aged 18 to 22 years, women aged 23 to 27 years, and women over 28 years old at the time of engagement. The classification of reasons for leaving employment has been made under three headings: those leaving on account of ill-health, those leaving for some sufficient reason other than ill-health, such as marriage, necessary home duties, removal of domicile, and those leaving without any reason, including those dismissed for misconduct. The figures show that, out of 1,000 women, 137 will have left before two months have passed and 306 before six months have elapsed. Of the 306 persons who have left, 220 offer no sufficient reason for departure. The number who quitted work through ill-health amounted to 61 per 1,000, expressed as a yearly rate, and would imply a high rate of sickness, if confirmed on larger numbers. In this connexion it should be remembered that the allegation of ill-health is frequently made by the employee on leaving work without confirmation by the medical examiner at the factory.

A careful comparison of the different rates in similar factories situated in a suburban area, in a country district several miles from the nearest village, and in a factory in a midland industrial city has been made to ascertain the effects of various circumstances on the rate of loss among the workers. The losses in the country factory have been only one-third of that in the suburban area. It has been found that the general strain of factory life is as well borne by the elder as by the younger women when the work is light. When the work is heavy it is found that a greater number of women over 23 years of age leave employment than of women of less age. The reason for this is probably to be found in the greater number of married women among those over 23 years of age. The increased strain imposed by the additional care of children leaves less reserve to meet the demands for a considerable expenditure of physical work.

THE BIOCHEMISTRY OF *BACILLUS HISTOLYTICUS*.

No other discovery by the immortal Louis Pasteur has surpassed his splendid achievement in demonstrating the dependence of the various processes initiated by micro-organisms upon chemical changes controlled by the activities of the living protoplasm. Bacteria induce putrefaction and yeasts evoke alcoholic fermentation, since these minute forms of life can set in operation complex decompositions and combinations in the materials brought into contact with them. Within the cytoplasm of microscopic yeast cells takes place the conversion of glucose into alcohol and carbon dioxide. Every particle of grape sugar decomposed during fermentation passes into one of the many million factories floating in the sweet solution of sugar, to undergo manufacture into alcohol carbonic acid gas. In this example the final stage of the decomposition of the glucose is completed within the unicellular plant. In other cases, the chemical change occurs without the animate substance, as a result of the enzymes produced in the living cells and excreted into the environment. However varied may be the ways in which the phenomena caused by micro-organisms are finally manifested, they make their beginning in the acceleration of different chemical re-

actions by catalytic agents created in the living substance of the animal or plant.

Surgeons engaged in military practice have observed that many infective conditions, which, happily, are rare in civil surgery, follow upon the infliction of wounds. Among these conditions, gaseous gangrene has attracted attention on account of its severity, which may at times exhibit a fulminating character. Among the organisms which are associated with infections leading to gaseous gangrene, the microbe described by MM. Weinberg and Séguin as the *Bacillus histolyticus* appears to have the most destructive effect upon the tissues. In the important memoir presented by these authors to the Academy of the Sciences in October, 1916, this organism was isolated in eight out of thirty cases in which its presence was sought. The severity of these cases may be inferred from the fact that the patient suffered amputation in four cases, while in the remaining four the patient died.

A study of the changes induced by the *Bacillus histolyticus* in proteins and in carbohydrates has been recently made by Captain C. G. L. Wolf, R.A.M.C., and Sergeant J. E. G. Harris, R.A.M.C., who have presented their results[1] as a report to the Medical Research Committee on the Biochemistry of Pathogenic Anaerobic Bacteria. The strain of the microbe which they employed was isolated originally at the Institut Pasteur by M. Weinberg. Its behaviour upon cultivation agrees in every particular with the account given by its discoverers, except that it developes noxious gases when grown for a long time on a medium containing cooked meat. The bacillus is possessed of considerable proteolytic activity, which leads to the production of amino-acids in media containing proteins. In addition, its deaminating power is such that, in a meat suspension containing 1,473 mg. total nitrogen in each 100 c.cm. medium, 1,000 mg. nitrogen as ammonia were liberated after 144 hours' incubation. As the reaction of the medium to litmus remains unaltered during the production of the ammonia, there must be a simultaneous formation of acids. The volatile acids alone are sufficient to make a semi-normal acid solution. On the assumption that the volatile acid will be butyric acid, this acidity would yield a 5% solution of this acid. Since fixed acids are produced at the same time, the capacity for liberating acids possessed by this micro-organism is considerable. Although no gas is formed in the tissues of animals infected with *B. histolyticus*, gas, consisting approximately of four parts of carbon dioxide and one part of hydrogen, has been formed on most media. The amount of gas varies with the composition of the material upon which the organism is grown. Lactose is partially hydrolysed by the enzymes of the microbe, but is only slightly decomposed. Peptone solution to which glucose has been added yields less gas than a simple peptone solution. The largest amounts of gases were obtained from a cooked meat medium in which much protein was suspended.

The biochemical behaviour of this bacillus offers an explanation of the violent character of the changes produced by this organism upon inoculation into animals. When a dose of 0.25 c.cm. of a glucose-bouillon culture is injected in the thigh of a guinea-pig, the destruction of tissue is so rapid that, in a short time, all connection of the tibia with the femur is dissolved and spontaneous amputation occurs. There is no sign of putrefaction and no gases distend the tissues. The organism hydrolyses the proteins to amino-acids and removes the amino-group from these acids. It does not, however, induce the separation of the carboxyl group from amino-acids, so that ptomaines of a basic amine structure are formed, nor does it induce those oxidations which lead to the formation of indol and phenol in the better known putrefactions of proteins.

[1] *Journ. Path. and Bact.*, Vol. XXII., p. 1, January, 1918.

THE COAST HOSPITAL.

A deputation of representatives of the Senate of the University of Sydney and of the staffs of the Sydney Hospital and the Royal Prince Alfred Hospital waited on the Minister for Public Health on August 22, 1918, for the purpose of entering a vigorous protest against the proposed extension of the Coast Hospital for temporary military purposes and, later, for civil practice. The views of the members of the deputation were presented by Professor Sir Thomas Anderson Stuart in the following terms:—

My task of setting the matter before you has been very greatly lightened by two series of resolutions which have been forwarded to me, and which I now hold in my hand. One is from the combined honorary medical staffs of the Sydney and Royal Prince Alfred Hospitals, which certainly include the cream of the medical profession of Sydney, and which was passed at a combined meeting held on 12th inst., as follows:—

That this meeting protests against the present proposal for the erection of accommodation at the Coast Hospital, Little Bay, for 500 returned soldiers on the following grounds:—

1. That the distance of the Coast Hospital from the city makes the close supervision of the work by experienced consulting medical officers impossible.

2. That, for the same reason, the services of leading orthopædic surgeons, radiographers, pathologists and masseuses, so necessary for the efficient treatment of the injuries of returned soldiers, would be unobtainable, and, even if they were obtainable, the accommodation and apparatus necessary for the carrying out of such work would entail large expenditure and be difficult to obtain under present conditions, whereas the city hospitals have at present the organized staffs and ample accommodation and equipment to deal with greatly increased numbers.

3. Owing to the existing shortage of medical graduates, which will continue for some years, it would be impossible to obtain an adequate resident medical staff without seriously interfering with the requirements of the metropolitan hospitals and country demands.

4. On account of the remoteness of the Coast Hospital, the assistance of students would be out of the question, which would be a loss, not only to the patients, but to the medical education of the State, and this is an important national matter.

5. The conditions referred to in the foregoing paragraphs would lead to inferior treatment being received by the returned men at the Coast Hospital, and therefore retard or prevent their recovery, which in turn would lead to an enormous and unnecessary expenditure in pay, separation allowances and pensions.

6. According to expert opinion, the necessary accommodation could be more expeditiously and cheaply carried out by enlarging the Sydney, Royal Prince Alfred and Royal North Shore Hospitals, which do not suffer from the disadvantages referred to in paragraphs 1 to 4, and whose present highly organized staffs are capable of dealing with greatly increased numbers of patients.

7. On account of the remoteness of the Coast Hospital from the thickly populated areas, soldier patients would be deprived of the cheering visits of relatives and friends, which are so helpful to recovery, and would be prevented from making proper use of their leave.

8. That any additions to the city hospitals would hereafter not only provide extra accommodation for the sick of the State, but be a much-needed aid to the cause of medical education, and so a permanent benefit to the State.

9. We, as medical men, wish to help to the utmost in the work of rehabilitating our returned soldiers as speedily as possible to civil life, but we feel that this will be impossible if the proposal to divert the patients to the Coast Hospital be carried out.

Following this, a meeting of the students of the University was held, at which the following resolutions were also carried:

A meeting of the medical students of the Sydney University, having been made aware of the nature of the resolutions passed at the combined meeting of the honorary medical staffs of the Sydney and Royal Prince Alfred Hospitals with reference to the increase of accommodation at the large hospitals in Sydney, thoroughly endorses these resolutions, and desires to add its most strenuous protest to the proposal to erect extra accommodation at the Coast Hospital, and urges that, if any addition is to be made, this addition should be made to the clinical hospitals. The students, as a body, feel that by this means the paucity of clinical material would be eventually remedied, and that the training at the Sydney University Medical School will be thus maintained at the standard for which it is renowned.

As an example of the present need of increased provision for clinical instruction, it may be stated that the number of students registered at the Royal Prince Alfred Hospital in the year 1907 was 90, and the number of beds in the hospital 318, whereas at present there are 150 students at the hospital and the number of beds 392, so that the large increase in the number of students is out of all proportion to the small increase in the number of beds.

In addition, the students feel that the reception at these clinical hospitals of military cases will enable them, since they are unable to volunteer for active service until graduation, to, in the meantime, do something to assist in the treatment of returned soldiers.

From these it is abundantly evident in the first place that the whole medical body of Sydney has been violently commoved by the proposal which has come to light, and I am bound to say that I have entire sympathy with these medical gentlemen and the students. As Dean of the Faculty of Medicine, it is my duty to see to the provision, as far as possible, of a sufficient amount of what is called clinical material, that is, a sufficient number of patients for the practical side of medical education, so that students who bye-and-bye become medical practitioners shall be trained as thoroughly as possible for the treatment and prevention of disease. In doing this, I feel that I have to run counter to many influences, official and other, but my duty must be done so long as I hold the office as Dean. As an old State official myself—for it is probably mostly forgotten that 25 years ago I was medical adviser to the Government and President of the Board of Health, and it was during my régime that the Coast Hospital received the impetus which has led to its present condition—I desire at once to state that the Hospital is far beyond anything at that time contemplated. And while reminiscing, I might point out that the Coast Hospital was placed at Little Bay, not by reason of its being a suitable situation for a general hospital, but by reason of its being as far away as possible from the city. It was founded hurriedly, as a small-pox hospital, and when the need for a small-pox hospital had passed away, the buildings were utilized for chronic general cases. It was never for one moment intended that it should become a general hospital for acute cases, or even for ordinary infectious cases, which it was hoped would be treated in a special infectious disease hospital, as recommended by Dr. Ashburton Thompson, at Moore Park. I mention these details because most people have forgotten them now, and they have a very distinct bearing upon the present situation. The resolutions I referred to quite clearly show the difficulty of obtaining the attendance of medical men, who go, not only as attendants on the sick, but also as instructors of the students. The practical impossibility of obtaining the attendance of students at a place so far away as the Coast Hospital is obvious. Now it is admitted on every hand that if the medical and surgical work of a hospital is to be at its highest efficiency there should not only be an attendance of fully qualified consulting medical men, but also an attendance of students, who act as a constant stimulus to effort and are keen critics of the work done. When the matter was considered by the Senate, the members deemed it to be of such grave import that they unanimously resolved to invite the co-operation of the Boards of Sydney and Royal Prince Alfred Hospitals, which are the two clinical hospitals of the State, to join with it in placing this matter before you, and all three parties are represented here to-day. I wish to make it clear that I am not contending that there should be no extension of the Coast Hospital. What I do want to make clear is that the extension shall be for infectious diseases and not for the ordinary medical and surgical acute cases, which are more properly treated nearer to the residential population. From a practical point of view, time is really important in this matter, and expert opinion has been given that the first pavilion at the Coast Hospital would be ready at the earliest probably seven months after starting the work, and that the whole accommodation required would not be completed until the end of two years. On the other hand, the accommodation which could be provided at the Royal Prince Alfred Hospital, for example, could be made available in part, at the end of four months, and could be completed in some six or seven months—this because there would be no foundations to build, no roof to construct, as the existing roofs would be raised in one piece and the additional floors inserted. A similar procedure could be adopted at the Sydney Hospital, which would be carrying out the original design of the building, and I submit this to the Minister as a better way of providing a part of the increased accommodation needed now for the military cases, having due regard to all the claims of the State, now and hereafter. The Minister might object that this deputation is now coming in at the twelfth hour, but I should like to point out that it was only by accident that the matter came to our knowledge, and, with all deference to the Minister, I think it would have been wise if he had consulted other bodies in addition to his officers, because officials—I am not objecting to it in the least—are naturally anxious to do their best for their own department, but necessarily they do not see the matter from every point of view, and that is exactly what has happened in this case.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight ending August 24, 1918:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	14	2	0	0	5	0	19	2
Scarlatina	57	1	0	0	24	0	81	1
Diphtheria	76	2	9	1	136	1	221	4
*Pul. Tuberculosis	44	21	1	0	1	1	46	22
C'bro-Sp'l Menin.	0	0	2	0	0	1	2	1
Poliomyelitis	1	0	0	0	3	0	4	0

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the fortnight ending August 17, 1918:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Scarlatina	4	0	28	0	32	0
Diphtheria	7	3	68	2	75	5
Pulmonary Tuberculosis	6	6	16	13	22	19
C'bro-Spinal Meningitis	1	0	1	0	2	0
Puerperal Fever	0	1	0	0	0	1
Erysipelas	3	0	3	0	6	0
Morbilli	0	0	2	0	2	0
Pertussis	2	0	41	0	43	0

Abstracts from Current Medical Literature.

SURGERY.

(76) Cancer of the Stomach.

The single known factor in the ætiology of cancer is chronic irritation, and William Mayo (*Surg., Gynec. and Obstet.*, April, 1918) suggests that hot food and hot milk may be the form of irritation which results in cancer of the stomach. The part played by heat is seen also in smoker's cancer of the lip, in the Kangri burn cancer of the Kashmiri natives, who carry charcoal burners across the lower part of the abdomen, in the shin cancer of locomotive engineers and in the skin cancer of the face, known now as the "Australian disease." As regards diagnosis, X-rays provide the best means of early detection of stomach cancer, which should be suspected in all people suffering from an anæmia which cannot be otherwise explained. The presence of a movable tumour, even of considerable size, is rather a favourable indication, and not, as previously taught, a sign of inoperability. He advises resection if the cancer is mechanically removable, even if all the glands and indurated tissue cannot be removed. Chronic ulcer is a potential source of cancer, and since it cannot be cured medically, it should be treated by actual excision and gastro-enterostomy as soon as X-rays reveal it; or after a snipping has been taken the ulcer should be burnt out by the method of Balfour and then gastro-enterostomy performed. In cancer of the pylorus, resection by the second method of Billroth is advised. For cancer of the pylorus and lesser curvature Mayo recommends wide removal, followed by closure of the duodenum, and wide anastomosis between the cut end of the stomach and the side of the jejunum, in front of the colon.

(77) Paraffin Treatment of Burns.

W. O'N. Sherman, with his associates, has treated over 31,000 first and second degree burns and over 4,000 third degree burns, and he considers the paraffin method the best form of treatment (*Surg., Gynec. and Obstet.*, April, 1918). The burns are carefully dried by either an electric drier or a fan, and the wax applied by a fine varnish brush or an atomizer. This layer should extend 1.25 cm. beyond the healthy skin margin, and a thin layer of cotton wool is laid over the wax and incorporated with it by painting over again with the fine brush. The dressing is completed by swathing the part in more cotton wool and then bandaging. The paraffin wax must be neutral, and should be so elastic and ductile that it will not crack after being applied. It must also have a low melting-point. Ambrine remains the best form, but its composition is a proprietary secret. Hull's paraffin tends to be brittle. Heating for eight or ten minutes at 120° C. renders it aseptic, and it can be applied painlessly at 65° C.. For the first two or three weeks redressing is done daily. In the early stages there may be some sloughing and sometimes collections of sero-purulent material under the shell. This may be gently washed away with boracic solution and the shell renewed. In burns of the third and fourth degrees, with extensive sloughing and toxæmia, it is best to employ the Carrel-Dakin technique of irrigation for some time before using the wax. Skin grafting is much less frequently required, owing to the extensive growth of new skin.

(78) Elephantiasis.

The Kondoleon operation for elephantiasis is discussed by Sistrunk (*Surg., Gynec. and Obstet.*, April, 1918). This operation is based on the anatomical fact that the superficial and deep lymphatics of the limbs are distinct, being separated by the aponeurosis covering the muscles. Œdema is usually limited to the subcutaneous tissues and fat lying between the skin and the aponeurosis. By removing portion of this aponeurosis the superficial and deep lymphatic systems can be linked up and the overworked superficial system drained into the deep lymphatics. Kondoleon, in 1912, reported seven cases of different types of lymphatic œdema, in which he had operated, and in all the results were uniformly good. Sistrunk now reports three cases, in two of which, however, the operations are too recent for any positive deductions to be drawn. Long incisions are made along the inner and outer aspects of the affected limb, and a large slice of œdematous fat excised. The aponeurosis is then opened and a longitudinal strip of it removed, so as to allow the bulging muscle to come into contact with the overlying fat, and the wounds are closed without drainage.

(79) The Operation for Semilunar Cartilage.

P. B. Roth (*Clinical Journ.*, March, 1918) makes a plea for the median patellar route in the operation for loose semilunar cartilages. He quotes Rowlands and Robert Jones as stating that many of the operations done for loose cartilage during the war have been unsatisfactory, and claims that the reason for this lies in the insufficient exposure given by the usual methods. Robert Jones has also pointed out that the cartilage is often torn at its posterior part, and that this is frequently overlooked in the ordinary operation. This incision was recommended by Hamilton Russell, in 1906, and subsequently advocated by Robert Jones and E. M. Corner. Robert Jones, however, considers it necessary only in exceptional cases, and Roth seeks to prove its superiority as a routine method. A median vertical incision is made, under proper aseptic technique, through the superficial tissues, and then the patella is chiselled through in the longitudinal direction; the two halves are swung out as on a hinge, and kept widely apart with retractors. The lesion is then dealt with, and subsequently the quadriceps and patellar tendon are sutured with a continuous catgut stitch. A word of warning is uttered against tearing out of the cartilage; it should be removed by clean cutting alone. In the after treatment the knee is kept slightly flexed and slight passive movements are begun on the second day.

(80) Version of Bullet in the Cerebellum.

Geoffrey Jefferson (*British Journ. of Surg.*, January, 1918) reports a case of gunshot wound of the skull, in which a skiagram, taken immediately after the accident, revealed the rifle bullet in the right lobe of the cerebellum. The bullet was shown with its nose pointing downwards, forwards, and inwards. Nineteen days later a further skiagram was prepared, and it was seen that the bullet was lying in a more posterior position, while its nose was pointing upwards, backwards and inwards. He quotes Flouren's statement that bullets introduced into the cerebrum or cerebellum tend to sink to the base. This movement is considered due to the action of gravity, to local softening, and abscess formation, and to the pulsations of the brain. Version itself is probably caused by the uneven distribution of the weight in the bullet itself (the posterior half being heavier), and possibly to a leash of vessels which impede the sinking of one end. The bullet was easily extracted and the patient made a good recovery.

(81) Rider's Tendon.

Wilson T. Davidson, in an article on rider's tendon (*Surg. Gynec. and Obstet.*, February, 1918) describes the manner in which rupture takes place in cavalrymen. The *adductor longus* is made tense in the act of gripping the horse's sides with the thighs. If the horse is prone to jumping or bucking, and especially if the rider is strange to him, there is likelihood of the tense muscle being struck against the pommel of the saddle. An ill-fitting saddle is, of course, a contributing cause. The muscle also at times is ruptured apart from riding, and in one case quoted the rupture was the result of a fall downstairs with the thigh overextended. The rupture may occur in the muscle substance, in the tendon, at the junction of muscle and tendon, and at the insertion. When the rupture is in either of the first three positions, an open operation with suture of the tear by means of strong mattress sutures is indicated. When the muscle is torn completely from its origin, the writer recommends excision of the muscle as the method of choice.

GYNÆCOLOGY AND OBSTETRICS.

(82) Ectopic Pregnancy.

J. O. Polak (*Long Island Med. Journ.*, April, 1918) writes an exhaustive paper

containing many excellent illustrations on the diagnosis of unruptured ectopic pregnancy, based on the tubal pathology. He believes that it is possible to make a positive diagnosis before rupture from the history, symptoms and signs in nearly all cases, so that numberless women may be saved by operation in the non-tragic stage. He bases his paper on 250 personal cases and on a review of all cases admitted to the Long Island College Hospital during the past two years. He lays great stress on a careful history, and he says that indications of mechanical obstructions, such as diverticulæ, strictures and inflammatory damage to the cilia of the tube, should appear in the history. Firstly, diverticulæ and torsions should show a pre-existing history of premenstrual and comenstrual dysmenorrhœa from the beginning of the establishment of the menstrual function and obstructions which are the result of chronic inflammation, should only give a history of painful menstruation since marriage, miscarriage, operation or child-birth. Secondly, when the ovum is delayed by impaired peristaltic action of thickened muscular structure of the tube, a history of a previous inflammation will be elicited. Thirdly, conditions outside the tube, such as the presence of fibroids or intraligamentous cysts, the twisting due to operations for malposition of the uterus or the existence of adhesions may impair the motility of the ovum. These conditions are suggested by a previous operative history. When the fecundated ovum lodges in the make-shift tubal decidua previously prepared for it, the first symptom of pregnancy appears, *viz.*, amenorrhœa. Then the syncitial cells erode into the small capillaries of the muscular coat and occasion numerous slight hæmorrhages between the ovum and tubal wall into the decidua. The effusion gives rise to ovular unrest and tubal peristalsis. The attempts to expel the contents are expressed as a clinical symptom, *viz.*, colicky pains referred to the region of the fruit sac. This unrest is transmitted to the uterus, so that we get uterine contraction and pain, with bleeding. Coincidently, a small amount of blood goes into Doughlas's pouch from the fimbriated end of the tube, causing some local peritonitis and painful defæcation. When we consider the physical signs, their relation to the pathology is still more striking: (1) the uterus is enlarged, due to the decidua prepared in anticipation of the reception of the ovum; (2) the cervix is soft, due to the existence of pregnancy, with its consequent congestion, but the uterus does not show the customary elasticity of its anterior wall and the compressibility of its isthmus, on account of the absence of the ovum in it. The uterus, and especialy the cervix, is sensitive on motion, due to the presence of blood and the existence of peritonitis in the *cul de sac*. The uterus is displaced by the tubal tumour, which has definite characteristics, *viz.*, rapid growth, sensitivity and fluctuation. On rupture there are signs of abdominal calamity. Rupture means the death of the ovum; consequently, there is no further use for the decidua of the uterus, which is expelled piece-meal or as a cast. Primary rupture usually occurs before the eighth week, and is rarely attended by tragic symptoms. There is usually an interval of days or weeks before further rupture takes place. The author does not recommend immediate operation when rupture occurs, but prefers to wait after reaction has set in. This reaction is indicated by slowing of the pulse and a gradual increase of blood pressure. Almost all patients will react with rest and the use of morphia. The author recommends an initial dose of half a grain (30 mg.) of a morphine salt and then one quarter (15 mg.) every three hours, reducing the respiration to eight or twelve breaths a minute.

(83) Analgesics in Labour.

R. W. Stewins (*North-West Med.*, March, 1918) believes that pain takes a leading part as an obstacle to successful normal delivery and to rapid return to normal nervous and physical strength in the puerperium. And this conviction led him to a careful study of the use of analgesics in the first stage of labour. He gives a list of the remedies used as analgesics and sedatives, *viz.*, morphine alone or in combination with cactin and hyoscine or scopolamine, codeine, belladonna, ether locally, as cerate, or given as atropine, ether, nitrous oxide, chloral, bromides, cocaine injected locally, pantopon and the hot douche. After pointing out the disadvantages of all except morphine and some of its combinations, he proceeds to give the six definite indications for the use of this drug in the first stage of labour, illustrating each indication by cases drawn from his own practice. (1) The indications are the early "pinching" or "back pains," so often found in young, nervous primiparæ; (2) tetanic contraction of the uterus affecting the lower uterine segment particularly; (3) cases of threatened shock from pain and exhaustion, arising frequently in primiparæ when there is a relative disproportion between the fœtus and pelvis; (4) inertia uteri, due to reflex influence in nervous, highly sensitive patients; (5) fulminating pains, coming so fast and furiously that they threaten to completely destroy the integrity of the cervix and perinæum; and (6) pains of any sort in patients not used to bearing pain, such as highly educated primiparæ or those of artistic temperament. The author concludes by giving the contraindications to its use. These are (1) patients displaying any idiosyncrasy; (2) former victims of the morphine habit, (3) patients who object from principle to taking morphine, (4) a certain type of woman who does not suffer greatly, but who believes that it is better "to have something," (5) when pains are irregular and feeble in a debilitated woman not over-sensitive to pain, and (6) women with very thick abdominal walls, in whom the placenta is situated anteriorly, or in whom the fœtal heart tones cannot be heard for any reason. The author asserts that, usually, one dose of 10 mg. morphia and 0.4 mg. scopolamine is sufficient. The dose is repeated in one hour if necessary, and is not given after dilatation has reached one-half.

(84) Lost Art of Obstetrics.

O. Findley (*North-West Medicine*, March, 1918) recommends all practitioners to read *Obstetrics a Lost Art*, by R. W. Holmes (*Surg., Gyn. and Obstet.*, November, 1915), and *The Abuse of Cæsarean Section*, by Williams (*Surg., Gyn. and Obstet.*, August, 1917). He himself makes a scathing attack on unnecessary operative interference, and then proceeds to lay down indications for the performance of Cæsarean section and other surgical procedures in obstetrics. He considers the abuse due to lack of training of medical students. He agrees that, in contracted pelvis of 7.5 cm. or under, elective Cæsarean section is the operation of choice, but it must be done before the stage of exhaustion. When exhaustion or probable or known infection is present, he recommends the more radical Porro-Cæsarean operation, or some means of delivery through the natural passages, even at the expense of the child. In moderately contracted pelves of 8 cm. to 9.5 cm. diameter, Cæsarean section can usually be avoided if Nature's forces are allowed sufficient time. He admits that, if a disproportion between the head and pelvis exists and if cervix is unyielding and the uterine contractions are ineffectual, an argument exists for conservative Cæsarean section, if this is done in the absence of infection and before the stage of exhaustion. In most cases he recommends waiting and aiding delivery with forceps, by version and, if necessary, by pubiotomy, which he considers a good and useful operation. In regard to *placenta prævia*, he admits Cæsarean section for a central implantation of the placenta in a primapara, but in all other cases he recommends the hydrostatic bag, followed by version and extraction. In eclampsia he admits Cæsarean section only in old primiparæ with rigid cervices and a viable fœtus, but, in the absence of an obstructing tumour or of a contracted pelvis, he sees no justification in a multiparous eclamptic. Vaginal hysterotomy is sometimes more useful than delayed manual dilatation of cervix. He condemns section in brow, face, breech and transverse presentations, except possibly in transverse presentations with the shoulder impacted, when the mother is usually exhausted and infected. It should then be Porro-Cæsarean or decapitation and extraction. He does not believe in the axiom: "Once a Cæsarean always a Cæsarean." He recommends having the patient in hospital and waiting. As regards the use of pituitary extract in obstetrics, he recommends small doses (0.5 c.cm., or 2 to 4 minims), and then only when cervix is well dilated. He protests against bimanual examination, and recommends rectal examination and abdominal palpation as all that is required in the majority of cases. In septic cases he recommends leaving the patients alone. Fresh air, nourishing food and cleanliness gave good results in the presence of retained placental tissue, which should be removed with the least amount of surgical interference.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on June 7, 1916, Dr. J. Espie Dods, the President, in the chair.

Dr. J. Lockhart Gibson showed a patient who was the subject of pulsating exophthalmos, with rupture of the internal carotid artery into the cavernous sinus. The condition had been treated by a ligature of the common carotid artery (see page 203).

Dr. R. Graham Brown asked why the common carotid had been tied instead of the internal carotid.

Dr. R. A. Macleod said that he could not quite realize how indirect injury could affect the carotid artery in the absence of injury to the skull.

Dr. Lockhart Gibson stated that he favoured tying the common carotid rather than the internal carotid, because the former procedure had resulted in between 60% and 70% of recoveries, while very few recoveries followed the latter procedure. It was a question of tying the vessel least likely to be followed by a re-establishment of circulation through the collateral branches.

In reply to Dr. Macleod, he stated that pulsating exophthalmos, combined with pulsation of the internal jugular vein, could only be explained on the assumption that the carotid had ruptured in the cavernous sinus. The sinus would thus become an aneurysmal dilatation of the carotid artery. At first there was pressure in the sinus, and then there was a reversal of the blood flow in the veins and a pumping of blood into the internal jugular. It was difficult to explain how a rupture of the carotid in the sinus could be brought about by indirect violence, such as a fall on the head. The internal carotid artery was bound or fixed at its lower external aspect, while its internal aspect was supported by the blood in the cavernous sinus. It was the internal, unsupported wall which ruptured.

Dr. J. Lockhart Gibson read the notes of two cases of siderosis (see page 201).

Dr. R. Graham Brown thought that if the foreign body had entered through the limbus, it would have left a hole in the iris which would have been noted subsequently.

Dr. J. Lockhart Gibson said that one of the objects he had had in reading the paper which had been published in *The Medical Journal of Australia* of December 29, 1917, and in bringing up one of these cases was that he had formed the opinion that the incision in the cornea, which he practised, followed by the use of the giant magnet to deliver the foreign body from the anterior chamber, was better than a keratome incision in the upper part of the cornea, followed by the use of a hand magnet. No instrument had to be introduced into the eye, and the lens was not subjected to risk from injury by the foreign body or the point of the magnet. He admitted, however, that it was not always necessary to introduce the point of the hand magnet into the eye. In the case of Lieutenant A. the foreign body had come into the anterior chamber by the best route for safeguarding the lens, although the eye had been applied to the point of the magnet in a manner best calculated to draw the piece of steel through the pupil. The adhesion of the iris to the lens prevented this.

Dr. F. Howson exhibited a patient suffering from muscular atrophy. The clinical history will be published in a subsequent issue.

Dr. T. H. R. Mathewson presented a child, aged 10 years, with enlarged glands on one side of the neck, enlarged spleen and anæmia. Dr. Burton Bradley exhibited sections of a gland removed from the neck of the patient. From the histological appearance he regarded it as a case of Hodgkins's disease. These notes will be published in a subsequent issue.

A meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on July 26, 1918, Dr. A. A. Palmer, the President, in the chair.

Dr. L. G. Teece read a paper on "The Organization and Surgery of Military Orthopædic Hospitals, with Special Reference to Nerve Surgery." The paper was illustrated by numerous lantern slides. The text of the paper will be found on page 197 in this issue.

Dr. R. Gordon Craig expressed his indebtedness to Dr. Teece for bringing before the Branch the highly important subject of the treatment of our returned soldiers. He referred to the development of orthopædics in England and America and on the continent of Europe during the past ten years. Dr. Teece had spoken of Robert Jones's pre-eminence in orthopædic surgery. He possessed the genius of mechanical skill, which had developed under the influence of his uncle, Owen Thomas. It was now recognized that the methods employed by Robert Jones were usually successful. In his opinion, the employment of plaster of Paris was a practical advance. Where no staff of trained mechanics was available to make iron-work splints, plaster was invaluable. It was possible to keep a number of iron splints in stock and to employ plaster when none of these suited a particular case.

The organization of the military hospitals and the special treatment of crippled soldiers were subjects which were closely interwoven with the work of repatriation. He noted with satisfaction that the Defence Department had decided to institute curative workshops. Dr. Craig referred to the selection made by the Department of Dr. Wade to be the organizer of the orthopædic service in Australia. Dr. Wade had studied under Sir Robert Jones, and had had a long experience of the kind of work that had to be carried out. He had the skill and capacity to develope the after-treatment of these crippled men. It had been estimated that the care of the crippled soldier consisted in 10% operating and 90% after-treatment. The importance of this after-treatment could not be over-emphasized.

In the next place Dr. Gordon Craig dealt with the vocational training, as carried out under the direction of the Department of Repatriation. They were extremely lucky in having the co-operation of Mr. Nangle, the Director of the Technical College, a man of exceptional ability. He considered that it was an excellent plan to mark on the patient's history card in large letters the original occupation, so that the surgeon would keep this before him throughout the treatment. It was much to the men's advantage if they could resume their old occupations after discharge. It was curious to note the fantastic ideas of some of the returned men. He had experience of a blacksmith who wanted to become a masseur, while others who had previously followed occupations calling for the exercise of strenuous muscular effort aspired to some highly technical trade.

The speaker sought solace in the fact that, even if Australia had lagged behind, the mistakes which other countries had made by getting in early could be avoided.

Dr. H. R. Poate said that he had been greatly interested in Dr. Teece's account of the organization of the Shepherd's Bush Orthopædic Centre. He spoke of his own experience at Shepherd's Bush. A great many of the deformities they had seen were preventible. Robert Jones had stimulated enthusiasm in orthopædic work, both in England and in France. The orthopædic conscience was being developed in the casualty clearing stations. He emphasized the importance of the institution of this treatment at the early stages. At first Jones's teaching had been followed at the base hospitals, and later it had penetrated to the casualty clearing stations and ultimately to the regimental aid posts. The application of the Thomas's splint at the front had been the means of saving many lives and preventing much deformity.

After having dealt with the results obtained by the adoption of rational methods of treatment, he turned his attention to the propaganda necessary for the proper recognition of the advantages of restitution work. Systematic training, such as that evolved by Amar in France had proved itself of inestimable value. He advocated that full details of this system should be made available at an early stage of the organization of our othopædic service.

In regard to nerve injuries, Dr. Poate held that it was quite essential that the muscular deformity should be restored before any attempt could be made to repair the nerve lesions. A momentary relapse in position could undo the work of many months. He valued the employment of plaster of Paris in this connexion. In conclusion, he urged that the men entrusted with this work should have a proper understanding of the main principles of military orthopædics.

Dr. H. S. Stacy congratulated Dr. Teece on his excellent summary. Some of the cases seen at the No. 4 Australian General Hospital at Randwick were extremely complex, and there was much difficulty in diagnosing the exact nature of

the injury at times. In 80% of all the cases orthopædic treatment was necessary. He dealt briefly with the difficulty of distinguishing between injuries of the musculo-spiral nerve and injuries of the median nerve in certain cases. In the treatment of the majority of the nerve lesions it was of the utmost importance to get the muscles into good position and into good condition before any operative treatment was undertaken. It was not infrequent that skilfully applied preliminary adjustment and treatment rendered operative interference unnecessary. He held the opinion that the surgeon should be slow to interfere surgically. The after-treatment was of immense importance. A paralysed muscle should not be allowed to relax, even for a minute. He paid a high compliment to the thorough manner in which the Americans had tackled the orthopædic question. They had instituted reconstruction hospitals. Rest camps for the milder deformities were of great value. It was important to keep the men as close to their battalions as possible.

In regard to nerve suture, he stated that the improvement was extremely slow, but it came in the end. He thought that many of the speakers at a previous meeting of the Branch had been unduly pessimistic. He did not approve of the use of *fascia lata*, on account of the possibility of interference with the lateral blood supply. Suture appeared to be useless for the posterior interosseous nerve. He also dealt with the effect of sepsis on the result of the suturing of nerves, and referred to the value of the Carrel-Dakin treatment.

Dr. N. D. Royle called attention to the fact that plaster was not being neglected at the Randwick Hospital. He spoke of the defects which had been noted in some plaster splints. The splints tended to slip up and down a limb. To prevent this, they had introduced a hinge of plaster, to obviate this defect. In regard to the employment of electric treatment, he pointed out that it was important to train the patient to use his own nerve impulses. It was a mistake to depend too much on electrical or mechanical stimulation. He referred to Langley's experiments, which tended to show that better results were obtained after passive movements and massage than when the muscles were kept in a position of rest. These experiments were by no means conclusive, but they indicated that more experimental work should be carried out to throw light on the problems involved.

Dr. R. H. Todd said that the delay in the introduction of proper orthopædic treatment in Australia had not been due to the want of recognition of its importance. The members of the Disablement Committee of the Medical War Committee had called attention to this matter from an early date, and they were all aware how persistently *The Medical Journal of Australia* had urged the institution of a proper orthopædic service. The Disablement Committee had memorialized the Government for the establishment of curative workshops. It was gratifying to know that at length they would be instituted.

Dr. Teece stated that there was not much needing reply. He thanked the members for the manner in which they had received his paper. In reply to Dr. Royle, he said that Langley's work had aimed at the induction of movements of joints, instead of keeping the muscles in the attitude of relaxation. They had tested this plan in a series of cases. The splints had been taken off for a time each day. He admitted that the number of cases in which this had been tried was too small to exclude fallacies. As far as their observations went, it was found that, though recovery did occur with this treatment, it was slower than when the usual method was applied.

Naval and Military.

CASUALTIES.

The name of Major John Clarence Wells, who was attached to the 30th Battalion and who died of wounds on August 10, 1918, appears in the 426th list of casualties. In the same list we regret to note the names of Major Crichton Raoul Merrillees, who was attached to the 4th Division of Engineers and who has been wounded for the second time, of Captain James Vincent Joseph Duhig, who has been wounded and poisoned with gas, and of Captain John Henry Raymond McCutcheon, who is ill.

APPOINTMENTS.

The following appointments, terminations of appointment, promotions, etc., have been published in the *Commonwealth of Australia Gazette* of August 22 and 29, 1918:—

Australian Imperial Force.

Army Medical Corps.

Lieutenant-Colonel R. Fowler, from 4th Light Horse Field Ambulance, to command 14th Australian General Hospital, temporarily, and is granted the temporary rank of Colonel whilst commanding, *vice* Lieutenant-Colonel (temporary Colonel) W. E. Summons, who relinquished the temporary rank of Colonel on ceasing to command. Dated 30th March, 1918.

Major C. V. Single to command temporarily 4th Light Horse Field Ambulance, and is granted the temporary rank of Lieutenant-Colonel whilst commanding. Dated 30th March, 1918.

Major A. R. Clayton to command 8th Field Ambulance, and is granted the temporary rank of Lieutenant-Colonel whilst commanding. Dated 17th May, 1918.

To be Major—

Honorary Captain J. W. S. McKee, Australian Army Medical Corps Reserve. Dated 16th July, 1918.

To be Captains—

Lieutenant (provisional) R. C. Dent, 26th Infantry. Dated 1st August, 1918.

Lieutenant (provisional) J. H. Hornabrook, 33rd Infantry. Dated 1st August, 1918.

Lieutenant (provisional) K. M. Garrett, 25th (City of Sydney) Infantry. Dated 1st August, 1918.

Lieutenant (provisional) Edward Ventris Bradfield. Dated 1st August, 1918.

Lieutenant (provisional) Frederick Hilton Wallace. Dated 1st August, 1918.

Australian Military Forces.

First Military District.

Australian Army Medical Corps—

The provisional appointments of Captains H. V. P. Conrick, D.S.O., G. W. Macartney, F. C. Wooster and J. S. Smyth are confirmed.

The provisional and temporary appointments of Captains C. M. Lilley, E. C. G. Page, E. S. Meyers and A. B. Morris are confirmed.

Australian Army Medical Corps Reserve—

Honorary Captain F. S. Thomas to be transferred to the Australian Army Medical Corps and to be Captain, provisionally. Dated 1st July, 1918.

Honorary Captain F. Howson to be granted the temporary rank and (part-time) pay of Major whilst holding the appointment of Specialist in Neurology, 1st Military District. Dated 15th July, 1918.

Second Military District.

Australian Army Medical Corps—

The provisional appointments of Captain P. Fiaschi, Captains (Honorary Majors) R. A. P. Waugh and L. W. Dunlop, Captain F. A. Maguire, Captain (Honorary Major) E. M. Ramsden, Captains A. W. H. a'Court, C. W. Thompson, M.C., C. Shellshear, A. C. Arnold, G. E. Marolli, R. W. W. Walsh, D.S.O., and W. H. Donald, Captain (Honorary Major) N. K. Robertson, Captain (Temporary Lieutenant-Colonel) S. G. L. Catchlove, Captains A. V. Meehan, A. L. Buchanan, H. G. Humphries, T. M. Furber, H. L. St. V. Welch, D.S.O., S. V. Appleyard, D.S.O., J. R. M. Beith, B. C. Kennedy, C. L. Chapman, D.S.O., and J. T. Paton are confirmed.

The provisional and temporary appointments of Captain G. C. Byrne, D.S.O., Captain (Honorary Major) L. Cowlishaw, Captains I. M. Bourke, T. R. E. Davis, T. A. Grieves, H. S. McLelland, W. E. Grigor, C. L. S. Macintosh, D.S.O., L. W. Bond, D.S.O., F. McIntyre, M.C., V. W. Savage, J. A. James, J. C. Campbell, J. B. F. McKenzie, A. T. Dunlop, W. F. Matthews, W. J. Stack, W. R. C.

Beeston, G. A. Renwick, J. McPherson, K. M. Whiting, L. May, M.C., W. Evans, M.C., R. B. North, H. H. Willis, R. J. N. Whiteman, G. Norrie, J. M. Alcorn, H. M. North, G. C. Willcocks, M.C., E. A. Sanbrook, E. S. Harrison, J. C. Douglas, F. C. Curtis-Elliott, and G. M. Hay are confirmed.

Honorary Captain (Temporary Major) R. D. Heggaton relinquished his appointment as member of the Permanent Medical Referee Board and the temporary rank of Major. Dated 29th May, 1918.

Captain (Honorary Major) H. Flecker to be transferred to the Australian Army Medical Corps Reserve. Dated 1st July, 1918.

Australian Army Medical Corps Reserve—

Thomas Alexander Palmer-Benbow, Ralph Athelstane Noble, and Arthur Henry to be Honorary Captains. Dated 12th July, 1918.

Honorary Captain F. J. Jensen to be transferred from the Australian Army Medical Corps Reserve, 3rd Military District. Dated 1st August, 1918.

Third Military District.

Australian Army Medical Corps—

Captains J. M. Baxter and J. L. Jona to be transferred to the Reserve of Officers. Dated 15th July, 1918.

The provisional appointments of Captains A. M. Wilson, B. M. Sutherland, L. J. C. Mitchell, H. J. Williams, D.S.O., F. C. Burke-Gaffney, D. D. Cade, D.S.O., J. Kennedy, A. F. Jolley, and J. H. Anderson, C.B.E., are confirmed.

The provisional and temporary appointments of Captains L. R. Cook, P. A. Stevens, J. A. Smeal, F. D. H. B. Lawton, M. D. Silberberg, E. R. Cordner, A. P. Drummond, F. H. Makin, F. E. Keane, H. N. M. Puckle, W. A. Hailes, D.S.O., and R. F. Craig, Captain (Honorary Major) H. R. Catford, Captains A. C. Fraser, F. F. McMahon, J. V. H. Guest, N. H. Fairley, D. D. Coutts, E. Champion, L. C. Lade, R. O. Douglas, and K. M. Doig, M.C., are confirmed.

Australian Army Medical Corps Reserve—

Honorary Captain A. S. Johnson to be granted the temporary rank and pay of Major whilst holding the appointment of Physio-therapeutic Specialist at No. 16 Australian General Hospital. Dated 1st July, 1918.

Honorary Captain R. H. N. Connell to be transferred from the Australian Army Medical Corps Reserve, 4th Military District. Dated 1st June, 1918.

Honorary Captain F. J. Jensen to be transferred to the Australian Army Medical Corps Reserve, 2nd Military District. Dated 1st August, 1918.

Fourth Military District.

Australian Army Medical Corps Reserve—

Honorary Captain A. E. Arnold to be granted the temporary rank and pay of Major whilst employed as a member of the Permanent Medical Referee Board. Dated 26th July, 1918.

The resignation of Honorary Captain P. Desmazures is accepted. Dated 31st July, 1918.

Honorary Captain R. H. N. Connell to be transferred to the Australian Army Medical Corps Reserve, 3rd Military District. Dated 1st June, 1918.

Fifth Military District.

Australian Army Medical Corps Reserve—

The temporary rank of Lieutenant-Colonel granted to Honorary Captain F. J. Walden whilst performing the duties of Principal Medical Officer, 5th Military District, is terminated. Dated 19th May, 1918.

Sixth Military District.

Australian Army Medical Corps—

The provisional appointments of Captains C. N. Atkins and S. G. Gibson, M.C., are confirmed.

The provisional and temporary appointments of Captain W. Smellie and Captain (Temporary Major) J. Sprent, M.C., are confirmed.

Captain (provisional and temporary) H. W. Sweetnam to be transferred to the Australian Army Medical Corps Reserve, and to be Honorary Captain. Dated 1st August, 1918.

Captain B. C. Kennedy, Australian Army Medical Corps, to relinquish the temporary rank of Major on completion of the duty for which such temtemporary rank was granted. Dated 13th April, 1916.

Obituary.

JOHN SIDNEY WILSON.

John Sidney Wilson died of wounds in France on August 9, 1918. No one can measure the loss which the medical profession and the community as a whole sustains by the death of a practitioner at the threshhold of his career. We can only guess at what his future might have been from the character of the man and from the brief record of his young life. All who knew John Sidney Wilson intimately are convinced that the loss is a great one.

He was born on October 21, 1893, in Sydney, and was educated at the Sydney Church of England Grammar School. His industry and his serious outlook earned for him the nickname of "The Professor." His comrades, however, recognized the sterling quality lying beneath the almost severe exterior. He was eleven years of age when he entered the school, and nineteen when he matriculated and passed into the Medical School of the Sydney University. He became a resident student of St. Paul's College. At the school his teachers soon discovered in him a hard worker, a man who was never beaten by a difficulty, and an individual with all the qualities necessary for an ideal practitioner. In 1916 he graduated, taking his Ch.M. at the same time as his M.B. This was in July. On the 1st of October his name was gazetted as a Captain in the Australian Imperial Force, Army Medical Corps. In the interval he served as Resident Medical Officer at the South Sydney Hospital, and won the golden opinion of the members of the staff, the nurses and the patients for the admirable and kindly way in which he discharged his duties. In December he left for the front. After serving the usual military apprenticeship in England, he proceeded to France in the second half of 1917, and was attached to the 15th Field Ambulance. He was on duty during the heavy military operations at Messines Ridge. More recently he accompanied his unit to a field of activity further south. No details are yet to hand concerning the manner of his death.

John Sidney Wilson proved himself in the twenty-five years of his life to be a man of exceptional character. His intense love for his mother and the manner in which he demonstrated this affection has made a deep impression on his closer friends. We sympathize with his mother on the loss of so excellent a son.

Special Correspondence.

(By Our Special Correspondent.)

LONDON LETTER.

Newfoundland as an Emigrant Settlement.

Lord Morris, until recently Prime Minister of the Dominion of Newfoundland, addressed a large meeting at the Overseas Club on March 26, 1918, on the future of Newfoundland.

He said, in the course of an interesting lecture, that the Dominion was a country to which some of our soldiers might wish to go after the war. A very few years ago it was entirely a fishing country; it was now one of the greatest fishing countries of the world, and capable of infinite development. There was work, with homes, for thousands of young men who might go out and establish themselves in the industry. After the war there would be a very much larger demand for fish, and there was here a large field for the investment of capital, with an absolute certainty of its being remunerative.

Next in importance to the fisheries of Newfoundland were the mines. There were minerals of great wealth and abun-

dance, as well as good agricultural land, large and valuable water powers, a magnificent climate, and many other accessories which went to make up a promising land for those who wanted to carve out for themselves a future. These resources had not been exploited up to now, as Newfoundland had not been on the "visiting list" of capitalists, but the day of Newfoundland was coming.

Dealing with the prospects of pulp and paper-making in Newfoundland, Lord Morris sketched a hopeful picture of the future. He saw homes out there for hundreds of thousands of people, if they could only be assisted by the State or by private capital.

The Middlesex Hospital.

Lord Cheylesmore presided at a meeting of the Court of Governors of the Middlesex Hospital, held in the Board Room at that institution on March 28, 1918.

According to the annual report, 5,087 patients were admitted during the past year for treatment, and 48,556 new patients were received in the out-patients' department. The attendances numbered 164,859. The annual subscriptions amounted to £6,039—an increase of £1,086 on the amount for the previous year; but the donations were £4,260, as compared with £6,327. A grant of £5,000 was received from King Edward's Hospital Fund, and there was a special grant of £1,000 for the building fund. The income from all sources was £38,148, as compared with £45,644 in 1916. The expenditure, owing to the rise in prices, rose to £52,474, and exceeded the income by more than £14,000. The average cost per in-patient was £2 7s. 4d. per week, as compared with £2 3s. 4d. in 1916.

In connexion with the Bland-Sutton Institute of Pathology there had been intensive study of problems directly arising out of the war, especially the extension of researches on flavine in the treatment of septic wounds. Reports confirming the value of flavine had been numerous, and recently a highly favourable record of the use of flavine in over 5,000 war wounds had been published by Army surgeons.

It was reported that the branch hospital at Clacton, which, since the beginning of the war, had been used exclusively for the care of wounded soldiers, was doing excellent work. The cost of maintenance was £6,957, and the patients under treatment numbered 2,391. From the outbreak of the war until the end of last year the hospital and branch had treated 8,281 wounded men.

The George Guthrie Fund.

Miss Lucy Wortham James, of St. James', Missouri, U.S.A., has executed a deed of trust for the purpose of administering a fund valued at £21,044, to be known as the George Guthrie Fund, in memory of Lieutenant George Watson Guthrie, R.A.M.C., who was killed in action at Beaucourt, France, in November, 1916. The trustees are directed to apply the income of the trust fund for the purpose of educating and training the sons of Scottish officers and men of His Majesty's forces who have served in the war and have died or been so disabled as to be unable to give their sons such a position as they otherwise would have been able to do. At the expiry of twenty-five years after the cessation of hostilities the trustees are to hand over the fund to the University of Edinburgh for the purpose of founding post-graduate fellowships, to be known as George Guthrie Fellowships, the object of which is to carry out research work in regard to the maintenance of health and the prevention of disease in children.

The Physique of the Nation.

In a recent lecture on "Problems of British Anthropology," Professor Arthur Keith recalled the question raised at the close of the South African war as to whether our national physique was undergoing deterioration. He pointed out that the report of the Inter-Departmental Committee on Physical Deterioration was pigeon-holed, and there it had lain to the present time with the dust upon it of fourteen years. That Committee concluded that we could never know anything about the physique of the people until a systematic survey was made, not of everybody, but of certain sections which could be used for testing the changes in any city, town, or class. Since then, the Government had resolved that school-children must be medically inspected every year, and he thought that machinery could be used to carry out such a survey. We had sent several million men into the field, to be exposed to hardships which none of their forefathers had ever seen or felt, and it might be said that there was no physical deterioration; but what of the men who had never taken the field, of those who wanted to join and were found physically unfit? Before the war, Germany had 16% of her young men unfit for active service, and he could hardly think we had escaped our share. Every country in Europe had an army of the unfit, and the unfit army was the one we had to study and to get into condition as a reserve from which the other Army could be filled. It was the total number of fit men, women, and children that mattered; that was the strength of the country. Every young man of eighteen had now to present himself for physical examination, and it could be seen from the instructions issued that the Minister of National Service was fully alive to the importance of that matter. There was another method of enquiry into the question of degeneration, and that was by means of the records of the earth. Nearly all the men who lived in England down to Saxon times had flat thigh bones; modern thigh-bones were round; and other changes had taken place in the face, the palate, the orbits, and the jaws, owing to changes in the style of life. We had different homes; our diet was so different in quality and quantity that our internal organs had great difficulty in dealing with it; and our lungs and hearts were taxed to a greater extent. All these circumstances could not come in and leave us exactly as we were.

MEDICAL ADVISORY BOARD.

We learn that the Minister for Defence has approved of the formation of a Medical Advisory Board to assist the Department of Defence in matters of medical policy. It is understood that the Board will consist of the Director-General of Medical Services, who will act as President, and of the Principal Medical Officers of the Second and Third Military Districts. It is stated that the questions of the extension of hospital accommodation and of the treatment of returned soldiers will receive early attention.

Correspondence.

FRIENDLY SOCIETY PRACTICE.

Sir,—Down with the clubs, they are past mending. In the *Journal* of the 17th inst. may be seen a scheme which is both admirable and fair to all parties concerned in the proposed transaction. Unfortunately, there is one serious flaw in its structure. It does not guarantee the subjection of the doctors. On that account it would not be acceptable to the friendly societies. If clubbery must continue to exist, its advocates might with advantage turn their attention to the trades people. Here a wider field, with a richer harvest, awaits their enterprise. Deep in the mind of the public lies a belief (sometimes expressed, but more often concealed) that payment for medical attendance should be left to the option of the patient or the relatives. It might be much, little, or nothing at all. When and how this idea arose I do not know. There is a possibility, or something more, that it reaches back to the olden time, when miraculous cures were performed, although rewards were never mentioned. Since then many beliefs have been brought forward. Some have been altered, others become obsolescent or disappeared, but this one rests on a solid foundation. Strange to say, the professional services rendered by veterinary surgeons do not find any place in the list. At any rate, I have not heard complaints coming from this quarter. Not entirely amongst the many does the belief exist. It is found in high places. Government departments expect doctors to render their services on terms they would not dare to propose to a manual labourer.

Yours, etc.,

"COUNTRY DOCTOR."

August 21, 1918.

[The custom referred to actually obtains, or obtained before

the war, in Russia. A general medical practitioner never asked for a fee, and never rendered an account to his ordinary patients. As a rule, poor peasants handed the doctor on leaving as large a fee as they could afford; at times the actual sum was necessarily very small. When no fee was proffered the practitioner usually refrained from repeating his visit.]

Medical Appointments.

It is announced that Dr. H. M. O'Hara has been appointed Certifying Medical Practitioner for Melbourne and Dr. W. L. Armstrong (B.M.A.) Medical Referee for Shepparton, Victoria, under the provisions of Section 26 of the *Workers' Compensation Act, 1915.*

Dr. C. W. Montgomerie Davidson (B.M.A.) has been appointed Acting Governmental Medical Officer, an Acting Health Officer and Acting Medical Officer to the Orphanage, Rockhampton, Queensland, during the absence of Dr. F. H. Voss (B.M.A.).

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

In future, no advertisements inviting applications from medical practitioners for positions in public institutions will be accepted unless the appointment is limited to medical practitioners who are ineligible for military service, or who have returned from military service. The term "ineligible for military service" is used to signify practitioners who are above military age, those who have offered their services and have not been accepted by the military authorities, or those who, for valid reasons, are incapable of applying for a commission in the Australian Army Medical Corps.

Department of Public Instruction, Medical Officer.
Children's Hospital, Perth, Assistant Resident Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Townsville Friendly Societies' Medical Union. Cloncurry Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments in South Australia. Contract Practice, Appointments at Renmark.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

Sept. 10.—Tas. Branch, B.M.A., Council and Branch.
Sept. 10.—N.S.W. Branch, B.M.A., Ethics Committee.
Sept. 11.—W. Aust. Branch, B.M.A.
Sept. 12.—Vic. Branch, B.M.A., Council.
Sept. 12.—Last Day for Nomination of Candidates representing N.S.W. Branch for election on the Federal Committee.
Sept. 13.—S. Aust. Branch, B.M.A., Council.
Sept. 13.—N.S.W. Branch, B.M.A., Clinical.
Sept. 17.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Sept. 18.—S. Sydney Medical Association (N.S.W.).
Sept. 20.—Q. Branch, B.M.A., Council.
Sept. 24.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Sept. 25.—Vic. Branch, B.M.A., Council.
Sept. 26.—S. Aust. Branch, B.M.A.
Sept. 27.—N.S.W. Branch, B.M.A., Election of Two Members of Federal Committee.
Sept. 30.—Vic. Branch, B.M.A., Election of Two Members of Federal Committee.
Oct. 1.—N.S.W. Branch, B.M.A., Council (Quarterly).
Oct. 2.—Vic. Branch, B.M.A.
Oct. 4.—Q. Branch, B.M.A.
Oct. 4.—Annual Meeting of Delegates of Local Associations of N.S.W. with the Council of N.S.W. Branch (first day).

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.